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## ORIGINAL ARTICLES

### *The Massachusetts Medical Society*

MEETING OF THE SECTION OF OBSTETRICS AND GYNECOLOGY AT SWAMPSCOTT, JUNE 6, 1924, 2 P. M.

Dr. Charles E. Mongan, Somerville, Chairman, presiding.

Voted that the reading of the records of the previous meeting be omitted.

Dr. Mongan: At Pittsfield last year, when we had our first meeting of the Section after a hiatus of twenty-five years, some of you will remember that the Chairman promised that something would be done for the furtherance of this Section in the JOURNAL. The Executive Officers considered the question as to how best they could aid the general practitioner in his obstetric work. We found we had a very formidable proposition on our hands. It was very difficult to know just how we could make the section most advantageous to the general man. We finally decided that the best thing to do was to give you once a month in a column of the JOURNAL the mortality statistics found in the puerperal state as they are recorded in Massachusetts. We did not attempt to do anything more. We simply wanted to focus the attention of the general practitioner, also the specialist, on mortality rates in the puerperal state. Judging from some of the comments I have received from the individual members of the Society, I think we have accomplished something along this line. Our object in doing this is to try to get you interested in the mortality rates in obstetrics. If we can get you interested in the death rates in the puerperal state, if you will grasp what it means, we think you will make better obstetricians and that you will give the community better obstetric service.

#### THE RELATION OF OBSTETRICS TO PREVENTIVE MEDICINE

BY WILLIAM E. STUDDIFORD, M. D., NEW YORK, N. Y.

During the past few years there has been a gradual awakening of the medical profession and the community at large to the fact that obstetrics is an important branch of preventive medicine. There is an increasing knowledge that skilled medical attention and obstetric assistance could have prevented many deaths—neonatal, natal, infant and maternal—as well

as much of the prolonged and chronic invalidism following childbirth. The development, by laymen and physicians, of such organizations as milk stations and maternity centers, shows the growth of public interest which has resulted in the passage of the Shepard-Towner Bill and the creation of departments of infant and maternal welfare, not only by the Federal Government, but by many State and Municipal Boards of Health.

Along with the demand for a reduced infant and maternal mortality has come a justifiable criticism of the teaching and practice of obstetrics. Why should there be so little reduction in the maternal death rate following parturition? More than ten thousand deaths from causes connected with childbirth have been recorded in the registration area. Why should more than 22% of these deaths have been due to eclampsia and renal diseases, which could have been largely prevented by proper medical attention early in pregnancy? Why should an estimated 32% of maternal deaths be due to infection incurred in childbirth, while there has been a general decline in the surgical death rate, where the same technique of asepsis is required? Why should more than 50% of the gynecological conditions requiring treatment or operation have their etiology associated with pregnancy or parturition?

One can find many factors in framing answers to these questions. There is the tradition that since pregnancy and labor are normal physiological processes, early physical examinations are not necessary and skilled medical attention is not of importance so long as someone is engaged for the time of labor. Whether it be the nearest physician, whatever his training, or the unskilled, unscientific midwife or kindly neighbor, makes little difference. Another factor is the demand that the baby be born at home, and the willingness of the doctor to undertake the delivery regardless of unsuitable surroundings, or the possible difficulties of labor. Then, too, many physicians have been unwilling to continue the exacting demands of an obstetrical practice at a relatively small remuneration for energy expended, after other lines of practice become established. On the other hand, many other physicians whose knowledge of surgical technique is deficient and who would not think

of performing even a minor surgical operation, do not hesitate to undertake an obstetrical case. Finally, obstetrics is one branch of medicine in which non-graduates are allowed to practice. The midwife, with our mixed foreign population, seems at present a necessity. How to control and supervise her is a problem yet to be solved, unless we can stimulate such an interest in obstetrics and provide sufficient skilled medical care, that the public will demand that she be abolished.

#### PRENATAL CARE

Holland has well said, "In a sense, all skilled attendance to a woman in labor is preventive obstetrics, but preventive obstetrics consists of much more than this. Much of the brilliant obstetrical surgery is no more than a belated recovery from a position that could have been avoided. The practice of preventive obstetrics begins with pregnancy and is not finished with convalescence. It consists in the anticipation of all possible complications; it aims to leave a healthy mother in possession of a healthy child." Such an ideal can only be realized by education of the public and the profession to the need of doctors highly trained in the practice of obstetrics, and the provision of adequate hospital facilities for dealing with the serious complications of pregnancy, labor, and the lying-in period. The material for such educational work must be obtained from the obstetric clinics and maternity hospitals, especially those connected with teaching institutions.

In the teaching of obstetrics, parturition and the conduct of labor have held too important places in the curriculum. The demands of many Boards of Registration that the undergraduate shall have conducted a given number of cases of labor has often given a false impression of obstetric practice. If it were required that the student should observe and care for a case of pregnancy, beginning at the second month and following her through labor and the puerperium, a better training in and understanding of obstetric problems would be obtained.

Just before and during the war, the importance of antenatal care of the pregnant woman assumed an increasing importance, and during the past five years the accumulating returns from well organized antenatal clinics have been so gratifying that many of our obstetric problems and procedures have been subject to revision. The delivery room is no longer the one center of activity in the maternity hospital and clinic. The antenatal clinic shares largely in the energies of the Staff, and preventive measures founded upon supervision and treatment during pregnancy have resulted in great possibilities of life-saving (both maternal and fetal) and have paved the way for an easier and safer delivery.

What such prenatal and natal care should be,

and how it can be brought within the reach of all expectant mothers, are two of the big obstetrical problems. With this in mind, I am bringing before you some of the methods employed and the results obtained at the Sloane Hospital for Women during the past five years. Not that we have anything new to present, but we hope that our experience may be of some benefit to those of you interested in this problem.

Sloane Hospital for Women, with 100 ward obstetrical, 26 ward gynecological beds, and 40 private rooms for obstetrical and gynecological cases, is part of the College of Physicians and Surgeons of Columbia University, and is under the direction of the Department of Obstetrics and Gynecology. Its Attending Staff consists entirely of instructors in the Department who are devoting their entire time to Obstetrics and Gynecology. Until June, 1919, Obstetrics and Gynecology were separate departments in the College, and this division was reflected in the organization of the Staff of the Hospital. Though housed in one building, there was no interchange of the services. With the re-union of Obstetrics and Gynecology into one department, the Attending Resident and Intern Staff were given a rotating service, which, after some experimenting, has been worked out on a satisfactory basis. This rotation of services, we believe, has been of great benefit. The gynecological training has improved the conduct of surgical procedures that may be necessary in obstetrical cases. Some of these surgical procedures are: The removal of ovarian cysts during pregnancy; myomectomy or hysterectomy for fibroids, complicating pregnancy or labor; Caesarean Section. The repair or removal of ruptured uteri can only be done successfully with the experience gained in the operating room. The obstetrical hospital must always be prepared to meet these emergencies. I believe that many of the surgical procedures practiced in gynecology have not been sufficiently applied for the relief of many of the complications occurring during pregnancy and labor. Many of the bad results of labor are due to procedures made necessary by the attendant's lack of surgical skill. In the same way, the etiology of the trauma following childbirth can only be learned in the delivery room; and the end result of such trauma, as seen in the gynecological clinic, can be more effectively corrected if its mechanism is thoroughly understood. The primary repair of such injuries is more successfully carried out because of experience received in the gynecological operating room.

Furthermore, gynecological operations on women during the child-bearing age are tempered by an obstetric background, so that where future child-bearing is a consideration, nothing should be done that might complicate future pregnancies or labors. The intimate contact of obstetrics with other branches of medicine requires expert aid along many lines. To obtain

this aid the head of each department in the Medical School has been a Consultant of the hospital. Each of these consultants has appointed an assistant who, as in Pediatrics and Medicine, makes daily rounds and is present on fixed clinic days, or is called when his services are needed. Others are available when required. The value of these consultations can hardly be estimated. The more we study the pregnant woman, the more we are convinced that she presents a many-sided problem, requiring expert advice along many lines for a favorable solution.

In a similar way the laboratory problems in pathology, biochemistry and bacteriology have been carried out in the laboratories under the supervision of the heads of the Laboratory; assistants and technicians being assigned to the Department of Obstetrics and Gynecology.

#### DEVELOPMENT OF SOCIAL SERVICE

With such an organization of the Hospital Staff, the development of the clinic was undertaken. If careful study of results during pregnancy, labor, and the puerperium are to be obtained, early registration of the pregnant woman is necessary. Her regular attendance at the clinic must be insisted upon. Adequate arrangements must be made for her entrance to the Hospital at any time during the course of her prenatal care that her condition may demand. And with the need for early registration is recognized the need to have the patient's verified home address and her living conditions. Such information can be obtained only by careful social service work. Though there had been a Social Service Department at Sloane Hospital for Women since 1911, it was only in 1920 that the present system was established. Until that time its work was characterized principally by an intimate personal relationship between the social worker and the individual patient, and with some few exceptions, it functioned as a service unconnected with the Medical and Administrative Departments of the Hospital. There had long existed a tradition established at the inception of the Hospital that certain beds should be set aside for "waiting women," who in return for their services as cleaners, ward maids, seamstresses, etc., were cared for during the latter part of their pregnancies and confinement. Such cases were not selected but were admitted on application and accepted with little or no investigation. The largest group consisted of unmarried girls who were either homeless, or runaways seeking a place to hide, with no definite plans for the future. Such cases were difficult to manage. Though they often occupied Hospital beds for months, they were of little value for antepartum study. As a general rule they could not be found after they left the Hospital, and for that reason were of little use for postpartum study. In 1920, however, the Social Service Department was reorganized, and with the consent of the Board of Directors, the

"waiting woman" was abolished. Work formerly done by "waiting women" is now being done much more satisfactorily by paid attendants. At the same time physical changes were made in the Hospital to give more room to the reorganized department, the prenatal and postpartum clinics, and in order to provide more facilities for prenatal care. The rooms occupied by the "waiting women" were converted into wards for patients needing hospital treatment during their pregnancy.

The next year was spent in a vigorous effort to change our method of registration and to enforce the requirements of the clinic. The proof of a false address was considered sufficient to refuse further treatment. Much time and effort, together with laborious stairclimbing, brought results and soon showed the advantage to the clinic of these requirements. Many enlightening facts developed, proving that the Hospital had been imposed upon in the past. Attendance at the clinic improved, and the waste material that formerly had received the benefits of careful examination, and, after one or two visits, failed to return and could not be found, was eliminated. In eliminating a group of more or less irresponsible lodging-house types, with a general low standard of living, the Hospital was not unmindful that these patients must be cared for in some way. But if the cases received represented a large proportion of abnormal cases, and if the majority of all cases could be supervised and followed up for a considerable period of time, it would make valuable medical and social research possible and serve an infinitely larger purpose than if it were a mere lying-in hospital, with no questions asked.

Today a false address is given not once in three or four months. Returns to the prenatal clinic are practically 100%, and failure to return is, as a rule, reported to the Hospital by the patient, or her family, by letter, telephone, or personal messages with the request for another appointment date. This definite location of the patient forms the basis for effective supervision during pregnancy and for follow-up after the patient leaves the Hospital. How else could clinic attendance be enforced, home instruction given, social conditions recorded, special problem cases advised? It is believed that the future of the newborn baby is better assured if definite facts are known about the mother's environment.

Nor was it wise to accept the multiparous woman with a history of previous normal and easy labors, who lived at such a distance from the Hospital that it would be impossible for her to reach the institution after the onset of labor. That this policy is justified was proved by an investigation of 800 cases who were refused and referred to other agencies for care during the past two years. Of these, 600 could be traced and the remaining 200 had given false addresses. Replies were received from about 500, and of these only one mother had died, that death

occurring in the hospital in which she had formerly been delivered with a complicated labor, and to which she had been referred for her second delivery. We believe that this careful selection of patients, with required attendance and obedience to the regulations of the Hospital, is of the greatest educational value, and we are beginning to see the result in a marked increase in our registrations during the early months of pregnancy, and in the cheerful and careful observance on the part of the patients of the instructions given to them. We have no doubt that the influence of this instruction extends far beyond the limits of our own clinic. Let it be understood that no case that applies to the Hospital is refused without being advised definitely where she will receive treatment suited to her individual needs. This is especially true in the case of the unmarried girl. Through social agencies adequate provision is made for her maintenance outside the institution during pregnancy and for the future of her and her child after leaving the Hospital.

With this increased responsibility of the patient to the Hospital has come a necessary increase in the responsibilities of the Hospital to the individual patient. The prenatal clinic can no longer be left to the supervision of the Intern Staff. The Attending Staff must be in attendance for consultation and advice. The diagnosis of pregnancy and the perfunctory measurement of the pelvis, blood pressure readings, and examination of the urine are not sufficient. Careful histories of previous illnesses and labors must be recorded at the initial visit, coordinating this history with the report of the Social Service Department as to the home conditions and environment of the patient. A complete physical and pelvic examination is made; pelvic measurements are recorded; Wassermann is taken; blood pressure is taken; and urinary examination is made. Should there be a suspicion of physical defect or a history of chronic disease such as tuberculosis, cardiovascular disturbance, etc., consultations are immediately held with the Attending Physician, and his findings are recorded. Such cases are the subject of conference, and plans for future care are decided upon and undertaken as early as possible. The importance of focal infection, and especially such infections as arise from dental caries, has led us to make it a routine that all cases shall have a dental survey with an X-Ray examination, and that dental treatment shall be instituted when needed. A very large percentage of our cases need supervision and treatment.

As a result of this careful examination in the prenatal clinic, we have found during 1922-1923 that about 17% of our registered cases need treatment and supervision either in the Hospital or at special clinics. Just as during the war, medical examination of recruits showed many men with physical defects that barred

them from active service at the front, so many of the women examined showed latent pathological conditions which do not interfere with their ordinary method of living, but which become evident under the stress of pregnancy.

#### PROVISIONS FOR COMPLICATIONS IN PREGNANCY

Herriek has well expressed it in a review of cardiac diseases complicating pregnancy, "Pregnancy is a great revealer of latent physical defects." Of 3460 deliveries during the past two years there were 238 cases of pregnancy associated with toxemia; 223 women with a positive Wasserman reaction; 44 with marked cardiac disease; 32 with pulmonary tuberculosis; 80 with pyelitis; 90 cases with pelvic or abdominal conditions requiring Caesarean Section; and 59 cases with fibroids of the uterus, large enough to interfere with the possible course of pregnancy or labor. The cases showing positive Wasserman were referred at once to the Department of Syphilology, and anti-syphilitic treatment was instituted. We have had good results from such active treatment, irrespective of the time in pregnancy at which it was instituted. This group of cases is the basis for a study now in progress by the Department of Syphilology and the Department of Obstetrics, with a view of clearing up some of the confusion as to the Wasserman reaction in mother and child.

Some of our syphilitic cases have been studied over a period of six years. In that time, together with the Nursery and Child's Hospital, we have taken part in an intensive demonstration of prenatal care conducted by the Association for the Improvement of the Conditions of the Poor and recently published in one of the monographs as Health Work for Mothers, etc., etc. This work was done in an area of eight city blocks comprising one of the most congested negro districts in the City. The two hospitals have cared for 94% of the deliveries in the district, and 98% of the mothers have received prenatal care. There were 1224 births during that time. Of this group 52½% were delivered at these hospitals; 41.7% received hospital service at home; and 53½% received prenatal care for three months or more. In this group of cases there was a mortality of 7.4% per thousand deliveries. Among the patients who received less than three months prenatal care the mortality was 10.6 per thousand, while among the patients who received more than three months prenatal care the mortality was reduced to 4.6 per thousand. There is in New York City among the colored mothers a maternal mortality of 9.1 per thousand, while in the Harlem District alone the mortality is 10.5 per thousand.

Of these 1224 pregnancies 192 of the mothers presented either symptoms or medical histories which warranted the diagnosis of syphilis. This group of 192 mothers had 286 pregnancies dur-



ing the time of this study and of these 23.3% who had prenatal care and treatment showed 88.9% live births and 11.1% either miscarriages or stillbirths. An analysis of their pregnancies prior to this study showed a total of 737 pregnancies of which 79.1% were live births and 20.9% were either miscarriage or stillbirths. There is a marked contrast between these figures and the nonsyphilitic cases with prenatal supervision showing 95% of live births and only 5% of either miscarriages or stillbirths.

One other fact of interest in this study is that of the total of 457 pregnancies of syphilitic mothers, untreated and unsupervised, there were 24½% stillbirths; 29.2% of the children born alive died within two years; and at the end of two years only 46.3% of the children were living. Of the living children born of syphilitic mothers, 172 had a negative Wasserman reaction. In 53 it was positive or doubtful. That is 29% of the 225 surviving children were diagnosed as possibly syphilitic. The more one studies such results, the more one is impressed with the need of a Wasserman test in every case of pregnancy. This test should be done as early in pregnancy as possible in order that suitable treatment may be instituted at once.

The cases of pregnancy associated with toxemia have been of increasing interest, and their treatment, examination, and management have been a combined problem for the Obstetrician, Internist, Ophthalmologist, Bio-chemist and Neurologist. In Sloane Hospital these cases are drawn from the prenatal clinic, or are received as emergency cases and classed as toxemias whenever there has been evidence of headache, disturbances of vision, edema, hypertension, and albuminuria with or without convulsions.

From our study of these cases we believe that often the symptomatology and physical signs, ordinarily classified as a toxemia of pregnancy, are due to the failure of the woman to react normally to her pregnancy through some physical defect caused by faulty hygiene, underdevelopment, endocrine dysfunction or chronic injuries of cardiovascular or renal systems. The latter are due to previous infections, such as the contagious diseases of childhood, or to chronic focal infection, chiefly of the teeth and upper air passages, or to an acute infection occurring during pregnancy. Such cases require treatment of the existing pathology. If such plans of treatment cannot be carried out at home, hospital care is necessary, thus allowing the woman to concentrate on her pregnancy, and relieving her of physical and nervous trouble. Here again the Social Service Department has played a leading role in making home adjustments that enable the mother to come to the hospital.

Bunzel has reviewed the cases of pregnancy associated with toxemia that have occurred at the Sloane Hospital for Women during the past

five years. Of 8192 consecutive deliveries there were 537 patients or 6½% showing symptoms of toxemia. Of these 537 patients, 57, or 0.7%, of all cases delivered, or 10.6% of the cases of toxemia, had toxemia with convulsions. Of the 57 convulsive cases there were seven maternal deaths, four of which were emergency admissions who had not had prenatal care; two died undelivered, being moribund at the time they were admitted to the Hospital. In the whole series of 537 toxic cases there were 15 or 2.8% maternal deaths.

One thing is becoming more and more evident in our experience with this class of cases, namely, the immediate termination of pregnancy in the presence of symptoms of toxemia (without first attempting to relieve the symptoms by hospital care and appropriate treatment) often defeats the object desired and proves fatal to both mother and child. In this view we are in accord with Tweedy, Newell, Williams, and others, that a conservative plan of treatment is indicated in all cases of toxemia with or without convulsions.

Cardiac disease complicating pregnancy presents another class of cases requiring hospitalization and treatment. The old statistics giving high rates of mortality in this type of cases are based largely on the result of attempts at delivery during periods of decompensation, when the woman is least able to withstand the shock of labor by surgical interference. Such cases, under proper treatment and rest at the first sign of cardiac embarrassment, may often be carried through their pregnancy and by judicious handling at the time of labor may be carried to a successful termination. We have established a special clinic for these cases, in which 89 have been registered and of these, 75 have been delivered with only two maternal deaths.

The cases with pelvic deformity, or new growths that may be an obstruction during labor, if kept under observation and admitted to the hospital before the onset of labor, may have their delivery safely planned with the prospect of a successful result much better than if allowed to remain at home until the onset of labor, often with ruptured membranes, or exhaustion of the patient, so that successful termination of the pregnancy has an added morbidity or mortality.

What effect does this elaborate plan for prenatal care have at the time of labor? Has it improved the result to both mother and child? Is there a lessening of maternal mortality and morbidity? Is there a diminution in the number of stillbirths? We believe that the results show the value of the time and effort expended. In a series of 3460 deliveries that have been analyzed there were 157 stillbirths. Sixty-one if these cases were emergencies, the patients not having received any prenatal care; 38 had been under observation less than two months; and 58 had been under observation two months or more.

Of the 157 stillbirths the causes are enumerated below:

- 53 were associated with toxemia.
- 21 of the mothers had a positive Wasserman.
- 8 were associated with placenta praevia.
- 11 associated with accidental hemorrhage.
- 9 associated with prolapsed cord, and in
- 4 the cord was tightly about the child's neck.
- 53 were probably due to trauma of labor.

It is fair to assume that at least half of these could have been delivered of living children had they been under suitable antenatal treatment. Of course, the cases of placental and cord complications will always constitute one of the unavoidable accidents of pregnancy, and the successful outcome will depend upon the promptness with which the condition is diagnosed and appropriate treatment is instituted. The high fetal mortality associated with primary breech deliveries and version and breech extraction (reports to the contrary notwithstanding) emphasizes the wisdom of attempting the conversion of a primary breech presentation into a vertex before the onset of labor; and careful regard as to the size of the child, and its relation to the pelvis must be taken where version and extraction is to be attempted. The work of Holland, Pierson, Crothers, and others, shows that many of the deaths following a breech delivery are due to fracture of the cervical vertebrae or rupture of the tentorium occurring during the delivery, and many of the infants born alive suffer from disability occasioned by injury to the spinal cord. Pierson, in a review of Sloane Hospital cases, showed a mortality of 12% in breech deliveries; and of these 38% had broken necks. There will always be borderline cases coming to delivery in which the fetal and pelvic disproportion cannot be judged without the test of labor. In such cases, before active interference is instituted, preparation should be made for any procedure, whether it be Caesarean Section, version, or the application of forceps. Then, under surgical anaesthesia, a thorough examination of the pelvis and its relations to the presenting part should be made, and the appropriate procedure decided upon. Too often such examinations are made without adequate preparation and the obstetrician is forced to attempt methods of delivery that are ill-advised.

#### FOLLOW UP

With the general plan of prenatal care has come the demand for a follow-up clinic both for mothers and babies. As a matter of fact, one of the greatest criticisms of obstetric care in the past has been that the women and children have been discharged from medical care after the lying-in period, and allowed to shift for themselves without proper advice. Hospital responsibility does not end here. Will the mother be restored to normal health and be able to care

for her infant? Has she suffered any bad results from pregnancy and labor?

The practice of postponing the secondary repair of injuries until the woman has had all her children is a bad plan. It leads to prolonged invalidism, to a very large number of abortions and to other serious complications. Follow-up examinations are of extreme importance in cases which have exhibited any pathology during the course of pregnancy. To meet this need Sloane Hospital for Women has established special clinics in coöperation with the Departments of Medicine and Syphilology, so that all cases after leaving the Hospital showing evidence of toxemia, cardiac disease, or syphilis, can be studied and advised as to treatment after the termination of their pregnancy. The efficiency of follow-up is well indicated by the work of the special clinic caring for patients suffering from toxemia during pregnancy. A follow-up of all the cases of toxemia occurring during the past five years was attempted. While it was found that in the early years, in which verification of address had not been insisted upon, we were unable to find many cases that would have been of value in our study of end results, still we have been able to examine 133 of our toxic ward patients, and, although not a large number, their study is of some interest. There was a time interval of 10 to 22 months between the first admission of the patient to the Hospital and her follow-up examination, special attention being devoted to the cardio-vascular and renal systems, with the following results:

- 50 patients, or 37.6% show a systolic blood pressure of 140 or more
- 40 patients, or 30% show a diastolic blood pressure of 90 or more
- 53 patients, or 39.8% show albuminuria of some degree

In 92 cases an intravenous phenolphthalein test was done, and a single specimen was collected one hour after the injection;

- 50 of these cases, or 54.2% showed an excretion of less than 50% of the dye;

Of the cases which showed papillary edema, retinitis, or hemorrhage in the eye-grounds while in the Hospital, 31% showed persistent retinal changes when seen in the toxic follow-up clinic.

From these observations we find that a total of 55 cases, or 41.4% showed signs of chronic cardio-vascular and renal disturbances.

Another question which commonly arises is: What happened to these toxic cases in subsequent pregnancies? In the follow-up clinic we have found 60 cases who were either pregnant when seen or had been pregnant since their discharge from the Hospital.

- 31 of these again showed signs of toxemia
- 9 cases reported having had spontaneous or induced abortion, without observation at Sloane

- 35 cases were carried through their subsequent pregnancy and confinement;
- 11 of these, or 31% showed no signs of toxemia,
- 24 cases, or 69% showed signs of toxemia,
- 5 of a mild type,
- 11 of a moderate type,
- 7 with severe toxemia, and
- 1 with post partum convulsions

Of the 11 cases without signs of toxemia there was one macerated stillbirth, with demonstrable cause; and no maternal deaths. In the group of 24 cases with signs of toxemia there was one maternal death, toxemia being complicated with severe cardiac disease, and the patient having been advised early in pregnancy to have a therapeutic abortion, which advice was declined because of religious belief. She died in the sixth month of pregnancy with cardiac and renal insufficiency.

Of the remaining 23 cases, 2 had spontaneous and 3 had therapeutic abortions.

Of the 18 cases delivered, 11 babies were born alive and 7 were stillbirths.

While this series of cases is small, the results are significant, and show the necessity of careful supervision and treatment of these mothers during the non-pregnant state, and if the symptoms persist in the event of subsequent pregnancy, the question of future sterilization with the idea of preserving the mother's health must always be borne in mind.

#### CONCLUSION

I have purposely gone into the details of our development of prenatal, natal and postnatal care of the pregnant woman in order to show the direction in which future obstetric practice and teaching must be developed. It has been rather interesting to watch the development of the interne in the Hospital during the past few years. Upon entering their duties at the Hospital their minds have been centered on the delivery room, and it has taken time and patience to arouse their interest in the antepartum and postpartum clinics. This effort, however, is bearing fruit and is indicated by the change in their attitude towards the possibilities of prenatal and postnatal care as proved by the results obtained. Work along similar lines is in operation in many other maternity clinics throughout the country. With students and internes trained in this method the end result is bound, sooner or later, to arouse the public to the importance of obstetrics in its relation to the public health.

With these increased responsibilities assumed and fixed upon the maternity hospital similar responsibilities must be placed upon physicians doing obstetrical practice. There is the same demand for early registration, careful physical examination, Wasserman test, repeated visits, urine examination and blood pressure readings

In the event of complications, such as syphilis, toxemia and cardiac disease, treatment must be available either at home or in a hospital. In these days of good roads, automobiles and well-equipped hospitals which are rapidly increasing in number, the complicated obstetric case must receive the same consideration as would an acute appendicitis or strangulated hernia. The time was not so long ago when surgical operations were attempted under unfavorable conditions because of a lack of hospital facilities. This condition has changed. In the same way there must be a change in the conduct of abnormal obstetric cases. The diagnosis must be made early so that the case may be hospitalized before complicating conditions have seriously compromised the safety of mother and child. One drawback for assuming such responsibility by the practitioner of medicine has been the small remuneration for the work involved. Education, I believe, will remove this drawback and compensation more nearly commensurate with the service rendered will be forthcoming; or, the Government, either State or Federal, will be compelled in the interest of the public health to provide funds for maternal care in cases that cannot afford to pay.

The development of health centers and public health nursing can lend able assistance to the practicing physician in the care of many obstetrical cases. The medical profession should welcome and cooperate in every way possible with lay and official organizations which have to do with maternal and infant welfare. Prenatal care and instruction without adequate hospital facilities is bound to fail in its results. As I have shown, probably more than 15% of pregnant cases have complications which can be properly cared for only in a hospital under expert advice. More hospital beds for antenatal care of the complications of pregnancy and the delivery of difficult cases must be made available, and these hospitals must have men who have received special training in Obstetrics and Gynecology. Such hospitals should become consultation centers to which a patient could be referred and advice given as to her future course during pregnancy and labor. I do not mean to imply that all cases should be sent to hospitals for their delivery, but the possible complications should be known long before the onset of labor and preparations made to meet them.

I have not touched upon the question of the causes and frequency of abortions, a question which eventually must be the subject of serious consideration by the medical profession. Nor have I discussed the question of birth control, now so prominently in the public eye. This, too, is a subject for serious consideration by the medical profession, especially as to the efficacy of the measures advocated, and their effect upon the individuals who use them. Sterilization for certain well-defined pathological conditions has

already been advocated. Should such sterilization be extended to the mentally and morally deficient? Who shall be the judge to determine when such sterilization shall be done? Certainly, with our decreasing birth rate every effort should be made to save as many as possible of the children born; and to see to it, so far as we are able, that such children have the heritage of good health.

The era of preventive and reparative obstetrics is under way, and its full extent cannot be accurately gauged. To quote Ballyntine: "There can be as yet no limit set to the possible therapeutic triumphs of an antenatal department with antenatal beds and a competent and devoted staff. When such departments have been widely provided, the general practitioner will probably find it will be for his pregnant patient's benefit, and for his own ease of mind to send his serious cases of gestation complications into them, just as he sends his fever cases into the hospital, and his insanity cases into an asylum. Even if he decide to treat them at home, under his own care, he may feel sure that with good nursing they will, in many instances, react to treatment, and at any rate he will have less anxiety with them when they fall into labor than he would have had if they had received no supervision and treatment from him in their pregnancy."

Dr. Mongan: I am going to ask you all to remain until the meeting is finished. Dr. Studdiford touched on the subject of the recurrent toxemias. The last speaker did the same. The officers of the Section have recently considered the subject of recurrent toxemias. As part of the program today, I will appoint a committee, with your consent, to investigate the incidence of recurrent toxemias in Massachusetts. The object of such an investigation will be to find out how many there are and if possible the cause. I think it was taught some time ago that toxemia of pregnancy associated with albuminuria did not recur. On this subject, I would like to call your attention to a recent article of Dr. Davis of Johns Hopkins. It was published in the Johns Hopkins Bulletin, I think, for June. I trust you will wait until that committee has been appointed and the matter discussed.

#### DISCUSSION

Dr. A. K. Paine, Boston: I am sure that I echo the sentiments of everyone here when I express my personal appreciation of this opportunity to hear Dr. Studdiford discuss this very important part of the practice of medicine. I was much interested in hearing his description of the organization of the Sloane Maternity Hospital. It certainly must be a matter of great gratification to him personally to feel that the Sloane Maternity has rendered such a good account of its stewardship of the obstetric health of its community. I was particularly interested in

some of the details of the organization. First, in the organization making a point of the close union between the obstetrician and the gynecologist. That is worthy of especial consideration and the patient benefits a great deal by the combined talents, if I may put it that way, in the attending physicians. He has called attention to the importance of purely medical work in conjunction with an obstetric clinic, not limited to a medical consultation from time to time, but actual daily visits in the obstetric hospital. My experience has convinced me that this represents a very important part in the proper care of obstetric cases. We found that the medical consultant was not only extremely useful, dealing with the intercurrent complications during pregnancy, in the proper conduct of the heart cases, but his services were also useful in the management of the toxemias of pregnancy. Even in such distinctly obstetric complications as the infections, the opinion of the medical man was sometimes very valuable. It seems to me that a properly conducted obstetric hospital should have a daily visit from a qualified medical man as regularly as the daily visit of the obstetrician.

He emphasized the importance of the social service aspect of this work. It is impossible to properly conduct the work without some such organization. This organized follow-up system is absolutely essential if the patients are to be properly attended. One of the difficulties that the general practitioner struggles with in the care of obstetric cases is the fact that he has no organized social service follow-up system. He tells his patients to return at a certain time but they do not always. He may not remember the date, the patient does not either, and she may not appear on the scene until some complication has made it necessary to call him. He is then too late to be of the maximum assistance. This social organization, properly developed, represents to my mind, and I think he will agree with me, one of the very important aspects of the work they have been doing at the Sloane Maternity Hospital.

He spoke of the development of a post-delivery clinic caring for these patients, with, I presume, the aid of the pediatrician after delivery, developing the idea that obstetric responsibility does not cease with the actual delivery of the patient and her discharge from the hospital. That responsibility could well be carried through for possibly a year or even longer, until the child is well on its way and a complete return to health has been achieved by the mother.

I want to ask Dr. Studdiford, when he spoke of the maternal mortality rate in a group of colored patients as being 7%, what the general cause of that maternal mortality was.

Dr. Studdiford emphasized a point which we all realize is tremendously important, the economic aspect of the practice of obstetrics. The



financial return for the average obstetric case is not commensurate with the amount of time, energy and skill required to properly conduct that case; this has a great deal to do with the low grade type of obstetrics which seem to obtain in many places. If 5% or 10% of cases requiring hospital care can receive hospital care it will take care of what one might call the emergency situation, but the service has to go further back and the patient must receive proper pregnancy supervision.

One point occurs to me here, and that is that the pregnancy clinic corresponds in a general way to the out-patient clinic in a medical or surgical hospital. It is the outpost, the firing line, in the practice of obstetrics just as it is in the practice of medicine. I wonder if in the organization of the obstetric hospital the same tendency may not develop which seems to be developing in general medical and surgical practice, that is, that not the youngest member of the hospital staff will have the care of the out-patients but rather that the most experienced member will have charge of the out-patient clinic, reversing the present procedure wherein the least experienced members are doing the work. I do not know what the organization is at Sloane but I'd like to hear that point taken up as to its importance by Dr. Studdiford.

Medical education as regards this branch of the practice of medicine represents a big problem. We realize that we have a long way to go in achieving everything desirable and possible in the proper education of the students along these lines, surely sufficient emphasis has not been laid on the importance of pregnancy care in the general teaching of obstetrics.

Dr. E. P. Ruggles, Boston: I can simply say in the words of Dr. Paine, that I have been much pleased to listen to a paper of this kind. I was pleased with two things, one, the way in which he applied the institutional care and prenatal work to the physician in his daily practice, to the man who is still doing obstetrics with his practice. The application of these methods of the institutional organization can be done to a certain extent by every general practitioner doing obstetrics. You have to secure the appreciation among these women of what good prenatal care and good obstetric care mean. You can do that in your own practice and then you have to provide means by which these women can get prenatal care and good obstetric care.

I'd like to look over some of the statistics that he is giving from an organization of this kind. I was struck first by the number of cases of recurrent toxemia. We have always been taught, and had the supposition to a certain extent, that the primipara was the woman who suffered with toxemia. I wish he would say a few words more in regard to the recurrent cases of toxemia, a little bit perhaps, about the type.

With regard to prenatal care, as Professor

Watson has said, the progress that will be made in the next twenty years in obstetrics will be along the line of prenatal care or preventive medicine. That may mean prenatal care, less interference with what should be a normal process, but if the process is not normal, a very quickly developing scheme by which that process should be terminated in a normal way as far as possible. The idea is that the progress that obstetrics will make in the next twenty years will be along the lines of preventive medicine: that the results of such an organization as Dr. Studdiford describes, that the good work that is being done will produce results that will perhaps percolate through the whole practice of obstetrics. It is coming more and more, as I see it, even among the general practitioners. If there is a good chance with the good roads, with the automobile, to get a patient to a nursing home, or to a hospital where she can get better care than at home, the physician is going to get her there, and I can see that that progress is being made. There is a chance of his getting consultation or getting better care for his patient than she could get at home. The matter of education along these lines has really made good progress in the medical centers.

I have not had any experience with the "waiting women" that Dr. Studdiford speaks of, but I have had some experience with the waiting student and I think it is wonderful that he, even early in his course, can see, perhaps not get his own hands into it in the first, second, third and fourth years, but has a chance to observe everything going on in a prenatal clinic, in a delivery room, as part of his education, also in the postnatal care of that woman as far as possible and then carrying on a little further in the postnatal clinics connected with the hospital. That has been an advantage to the student. You can see that in his practice outside. He may leave the zone about the hospital and go to the outlying districts, in a community away from a large center, but he is doing better obstetrics than he was a few years ago. The perfection of these things is to my mind very important.

I'd like to mention just one little experience of mine. A girl came to me at the age of twenty-two years. Between the ages of fourteen and twenty-two she had had eight pregnancies. She was then in her ninth pregnancy. The deliveries had ranged from one month up to eight and one-half months with no living child. She had been delivered in Philadelphia, New York, and in districts around Boston. No Wassermann test had ever been done and I don't believe I would have done it unless it had been my habit. Following out the prenatal custom, I took a four-plus Wassermann. I believe, if that woman had gone to a general practitioner outside that perhaps not one out of ten would have immediately made a Wassermann test or had one done. For her five and one-half months' pregnancy she was given intensive anti-syphilitic

treatment. She has today a fine non-syphilitic child. The nerve specialist tells us that we are developing a child that is coming to him later but I take a chance on that.

Another thing is the matter of toxemia. I'd like to look over some of the statistics that Dr. Studdiford gives us. There is no question but that is one of the greatest advances made in the care of obstetric women, the factor of prenatal care, and the women themselves are being educated to the fact that there is something in it, that it is not just that the physician wants her to do, but that she must have it. In going to a private hospital in the vicinity of Boston I found that cases had been booked for next January and February. A few years ago I don't believe that would have happened. These women are coming to us and to you earlier than ever before. There has been a sort of education. I don't believe it has all been due to the community health centers or anything of that kind any more than to the general practitioner himself who has been picked at until he feels that he must keep up with the medical profession in this way.

I'd like to have Dr. Studdiford tell us, at some other time perhaps, about the effect of labor and the results in these cases where the woman has had good prenatal care. There is no doubt about it that it does have a tremendous effect upon the cases of stillbirths. Malformations, congenital syphilis and accidents of labor that may cause stillbirths are exactly the same as may cause deaths after birth. If we bear that in mind we have no just right to sign a death certificate of a child as "stillbirth" without giving the cause for it than we should sign any death certificate as "heart failure."

I am very glad to have heard Dr. Studdiford and I hope other members will speak about the subject.

Dr. T. M. Gallagher, Newton: We have listened to Dr. Studdiford's paper with a great deal of pleasure and I think the writer should feel justly proud. He has covered the ground thoroughly and his work indicates that he has a good hospital back of him and has given us the surgical and academic side of the question rather than the side of the obstetrician or general practitioner.

I would like to ask him whether he anticipates that the obstetrician of the future will be the obstetrician of old with a little surgical training or the surgeon of today with a little obstetrical training.

Today I do not find the death rate materially different from the time when I was a student. When I was a student at Harvard we had no pre-natal clinic and very little pre-natal care, yet the Boston Lying-in Hospital had a record of a thousand cases without the loss of mother or child. Today with all our pre-natal care, with all our laboratory work and urine examina-

tions monthly or even weekly and with all our nursing care, obstetrical and surgical training, in the hospital I represent the best we can do in the last thousand births was four deaths of mothers and a slight increase in the deaths of babies.

I believe we have magnified or exaggerated the condition of pregnancy. I do not like toxemia of pregnancy but would prefer pregnancy with toxemia. We know pregnancy is a normal condition; woman is built for it, she has the natural reserve in her body to take care of it, and it is only when something goes wrong that she has to appeal to us.

We recognize that the toxic mother becomes sick, and that sickness may appear any time from the beginning to the termination of the pregnancy. The woman ought by nature to be better for a pregnancy because we are dealing with a normal condition in the female and her body is so constructed that it has a reserve power for taking care of any excess created by the pregnancy.

I feel that the psychic end of this condition has been very lightly considered, this is evidenced by the fact that the unfortunate maid in a family may work out her full term pregnancy under the eyes of a discerning woman, never lose a meal, never complain and come to and through her delivery without the assistance of a nurse or doctor. Then again, the teacher who wants to retain her position, in spite of her pregnant state, will continue her occupation, never missing a day until such a time as her size alone betrays her permanent condition. A third instance, is the woman who through previous irregularities of menstruation does not know when to expect the next period and may be actually pregnant from three to six months before she finds out her real condition. She has lost no meal, she has had no trouble, and her apprehension begins when she is told that she is soon to become a mother.

The condition that produces toxemia today I believe dates way back to childhood days. Without coöperation between the Boards of Health and the physicians, good work is impossible. I do not mean to indict the physician neither do I mean to indict the Boards of Health, but the physician today may take care of scarlet fever, septic cases and erysipelas and may go along and examine mothers and send them to our hospitals even after he has made an attempt at delivery. This is one thing that must really stop.

The absolute segregation or quarantine of scarlet fever cases would seem to be our first step both for the reason that it would inhibit the spread of the disease and would prevent the general practitioner from taking care of scarlet fever with its attendant streptococcus, and also the care of the mother.

A careful history of the woman with toxemia or nephritis will reveal in a large percentage of

the cases, the previous nephritis of the acute children's diseases. This nephritis may stay quiescent for a long period of years and then when a woman comes to pregnancy we find that the kidney has lost its reserve and she shows toxemia or goes on to nephritis again.

The speaker did not dwell very much on the treatment of syphilis or the class of cases which should receive anti-syphilitic treatment. In Massachusetts we believe that each and every case of syphilis should get active treatment. This treatment should consist of mercury or mercury with chalk and even salvarsan. There is no reason during the first six months why this treatment should not be given. The doubtful cases with a history of convulsions or hydramnios or miscarriages are all treated with the anti-syphilitic treatment.

His mortality seems high compared with some hospitals. I am not familiar with the conditions which obtain around his hospital. But here in Massachusetts I think the death rate is a little lower because we have not the congested area that he draws from, and have little of the colored element to treat.

So far as sending out to the country these well-trained men who are able to do excellent work in obstetrics and all the necessary surgical work beside, I think we have come to the parting of the ways. If the physician has that ability he won't go to the country any more, and if he has that ability and is already in the country he will leave it and go to the city, for unless he is a direct contradiction to all human nature,—and especially that which we see exhibited in the physician of today—he will accept the high prices of the city rather than the medium prices of the country doctor.

Another thing to mention is the class of cases coming to the hospital untreated and unseen. The doctor has spoken of them. Probably ten percent (10%) of the women today who go into the hospital have been seen by no one; they come in all kinds of conditions. We regard these cases as potentially infected and segregate them until such time as we find them all right to put along with the clean mothers.

If we find in our wards a single case with the temperature of one hundred and five-tenths (100.5) for two consecutive days that patient is put into an isolation ward and is no longer taken care of by the nurse or house-physician taking care of the others.

Dr. C. J. Kickham, Brookline: Dr. Studdiford has read a very excellent paper, one with many points of importance. There was one thing he spoke of which I think is of very great importance. He mentioned that in the toxemia cases the use of any operation sometimes defeats the object for which it was intended. I think that is particularly so in the first five or six months of pregnancy. In the early toxemias it is not an infrequent thing to be asked to do an

abortion or to have the question raised of the advisability of an abortion in the early stages of pregnancy. At that time I feel that they are absolutely dangerous and in our hospital, where we do about 850 deliveries a year, I am going to say something that probably will not be agreed to by many, that I have never seen a woman with a true toxemia of pregnancy, that died as a result of her toxemia of pregnancy. I have seen several who have died as a result of induced abortion during that period where I am convinced that the cause of her death was the shock of the abortion on top of her already pathological condition. So that I feel strongly that in the early toxemias of pregnancy one should hesitate and go very slowly about inducing an abortion. I feel that those cases can be carried along to a successful conclusion. The experience of others may be different; they may have seen such cases die. I have not, therefore, it is natural for me to take that attitude.

There is one thing Dr. Studdiford spoke of that I can not agree with, that is, the sterilization of patients. As he said, with our lowering birth rate we must conserve that function and I feel that, as one reads the medical journals of the last five years and attends the various medical meetings throughout the country, one is led to feel that sterilization is being advocated for too many things and for some of them unnecessarily.

As Dr. Ruggles said, I would like to have Dr. Studdiford go a little further into the secondary toxemias. I always have found and always believed that repeated pregnancies rarely showed toxemia of any great seriousness. I never saw one with convulsions a second time. My experience has been that in the secondary pregnancies you may have some albuminuria, and even some slight hypertension or some symptoms of toxemia, but they never become serious. Therefore, I feel that the question of sterilization should be handled very carefully and only under most drastic conditions should it be done.

I trust that Dr. Studdiford will take the remarks I have made with regard to sterilization as no personal implication that in his particular case it was not necessary, but I believe it is being advocated for too many things.

Dr. L. E. Phaneuf, Boston: I would like to say a word in connection with toxemia. That is, that the real treatment of toxemia is the prevention of toxemia. This is proven more and more by the prenatal work done. At the Thirty-sixth Annual Meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons in Philadelphia last year, Dr. Asa B. Davis of New York made the statement that he hardly found enough toxemia cases to teach his internes what convulsions were. Ten years ago, when I was house surgeon there, it was a quiet day when we did not have at least one convulsive case. I have proof that toxemia can be pre-

vented in a large measure. I founded the maternity department of the Carney Hospital not quite five years ago. During that time only one of the cases which we followed in the prenatal clinic developed convulsions. That case of toxemia was recognized early and sent to the hospital for care. She failed to improve under conservative treatment, so she was prepared for delivery in order to avoid the convulsive stage. That was on Friday. I came to induce labor, but she refused induction; got up and went home. The following Sunday I was called while at breakfast to come to the hospital to see this patient. She died in a convulsion while being moved from the elevator to the delivery room. The point that I would like to emphasize is that the treatment of toxemia is largely the prevention of toxemia.

Another speaker said that he agreed with the proposition for the investigation of recurring cases of eclampsia. He said: I personally know that they do occur. I am inclined to think that they recur more frequently than one thinks. In my experience I had it recur three times in one patient. That patient is still alive. With all the symptoms of toxemia that are characteristic of that complication, I think it does occur frequently. I think it needs investigation.

Other speakers asked how effective is X-ray sterilization, where it is indicated and how permanent is it?

Also just what is being done on the question of nutrition and diet in these patients? It is a most important subject and one that may well have an important bearing on the prevalence of toxemia.

With regard to recurring toxemia, the speaker said that he wrote a paper on that subject last year and found in a small series of cases that there were 17% of recurring toxemias, cutting out completely the chronic kidneys.

Dr. A. B. Shaw, Fall River: There is one point which Dr. Studdiford touched on that has not been taken up thoroughly. Coming from Fall River, with a large foreign population, it is a question which hits us harder than folks in other parts of the State. That is the midwife problem. I'd like to ask him what is the best method to handle the midwife problem.

Dr. Studdiford: Someone mentioned the pediatric service. I did not mention in my paper that we have an attending pediatrician who visits the hospital each day and is responsible for the examination of the newborn, and directs the feeding of the infant, in conjunction with the obstetrician. Such feeding has always been considered part of the obstetric service. It also has brought about this result, that the average pediatrician does not know anything about the feeding of the newborn; he has had little experience in feeding the newborn. We found that by having a pediatrician working in conjunction

with the obstetrician it is another case where there have been mutual benefits. We have gained a great deal from his knowledge on the subject and we have been able to give him some advice as to the care of the mother. Changes are always a matter of consultation.

On the question of the nursing of infants, last year's figures showed that 92% left the hospital on breast feeding.

The same thing is true of the premature children. We found that the feeding of the premature child was often one of dietetics. We found often that we had brought the child up to a point where it could be taken home and the good work was undone because the mother did not have a suitable clinic to which she could come. For this reason we established the post-natal clinic last September and it has had practically 100% of attendance of premature children that have left the hospital. The results have been very good.

The question of toxemia has been mentioned by several of the speakers. I possibly have confused you a little bit or was not explicit enough in my statement as to what we classified as toxemia. This is one of our great troubles. In all the textbooks, in our discussions, in our journals, we read of the toxemia of pregnancy. I believe it is a wrong arrangement of words. It would give a great deal more meaning if we called it a pregnancy with toxemia, because all of these cases are not toxemia because of the pregnancy. Many of these cases, as Dr. Gallagher has mentioned, are questions of early infection from scarlet fever, etc.; that woman has gone along in a perfectly even way and apparently has been all right; pregnancy is thrust upon her with new work with the result that she goes along fairly well up to the fifth or sixth months and then develops some symptoms of kidney insufficiency. That is not a toxemia of pregnancy, it is a pregnancy that developed a toxemia in the woman. That same woman, if she should be forced to take some other kind of mental and physical strain, would develop the same symptoms of toxemia. If she goes to bed and takes a rest, the symptoms pass over. In pregnancy she can't often do that. In many of these cases, the fact is that we know little about the pregnant condition of any woman. If we knew what the physical make-up of the individual was we possibly could draw some conclusions as to what the results would be in pregnancy. She gets pregnant and then suddenly these symptoms develop; she has headaches, some vomiting, high blood pressure, albuminuria, and she seeks advice. According to the old plan of treatment, you say she has albuminuria. What are you going to do? Take the baby away, and what is the result? An induction is attempted in that case, and immediately she does not get better. She probably goes on into convulsions and dies. If you take that same woman, remove her from her sur-



roundings, put her under proper treatment, take time to survey that condition and find out whether it is simply an exacerbation of a chronic condition or whether you have some condition developed in the course of pregnancy. I have yet to see in the past five years a case that we could not take time to study. What happens when we get a case with the so-called threatened eclampsia? She is going along perfectly well, then begins to develop headache, the eyes don't focus properly, she vomits, and immediately gets distracted. The doctor comes in and says "You have to go to the hospital," etc. You have added to the strain that is already existing by the nervous strain you put on that woman. She is brought in to the hospital, she is rushed into the delivery room, one doctor starts to take her blood pressure, another takes blood for examination, another does something else, and the first thing you know she is in convulsions. If you take that same woman, meet her properly, give her a good dose of morphine, get her nervous symptoms calmed down, then flush out the bowels, examine the urine, take your blood test, etc., and find out what you are dealing with, you will avoid much trouble. Many are chronic hypertension cases, many are chronic nephritis. In the heart cases, the old plan was to terminate the pregnancy. Now the heart disease is treated in the same way that toxic cases are treated. It is there we are in difficulties; it is a good deal like finding out the cause of cancer. We don't know why they develop toxemia. We have confused the terms of eclampsia and toxemia and there are a great many different conditions to be considered. We have to study these cases and that is the reason it is necessary to study and work with them in the postpartum clinic, to take these cases and have them treated, and there we can find out what the normal condition of that woman is in the non-pregnant state.

It has been impossible in the past to get a woman to come back after the birth of a child. It is easy enough to get them to come to the prenatal clinic but a woman who has gone through an eclampsia and lost her baby does not feel very happy toward the lying-in hospital. It takes time and tact to get in touch with her and to impress upon her the need of future treatment.

These recurrent toxemias were not necessarily all cases that had eclampsia, they were cases that had a toxemia associated with their pregnancy. One of them developed postpartum convulsions. I am not sure from the records I have at hand whether she had convulsions with her previous pregnancy.

There are certain types of cases which have an eclampsia, clear up and go on and have another pregnancy without that trouble. In the cases of high blood pressure and albuminuria we used to consider that enough to indicate that the pregnancy should be terminated. Now that is

not true. They need treatment and a thorough physical examination and removal of focal infections. Once you get started on the focal infection part, it gets to be a hobby and you are carried away with prenatal results too soon to be absolutely sure of it. We have had a number of cases that came in toxic which had bad dental conditions. I had two or three cases badly toxie and on the verge of eclampsia. They were delivered and went out of the hospital. Their focal infections were cleared up, they were improved in general condition and the next pregnancy went on in a normal way. In some cases where the advice was not followed they came back in a second pregnancy in the same state of toxemia. That is the type of problem we are up against. That is one of the reasons why every pregnant woman should be examined early in her pregnancy and repeated examinations should be made to determine her physical condition. As one doctor said, labor and pregnancy are normal processes. Everyone will agree to that, but you have to have a normal woman to have normal pregnancy and labor. If a woman has a latent pathology to carry with her all through her life and is not enabled to withstand the burden, she should be watched. It is all very well to say that a woman who has a bad cardiac disease should not have children. I do not know what other experience has been but mine has been that women who have cardiac disease should have been told when they were fifteen or sixteen years old that they must never have children. The time comes when such a woman marries. It is a good deal like the Volstead Act. She wants a child. If she gets pregnant are you going to say "You shall not have that child"? That woman has to be watched and carried through her pregnancy. I have had cases in bed for four or five months successfully carried through labor. That type of case you may carry through once but the second pregnancy comes and the first has done damage. Then comes the question of whether she should be aborted. Then comes the question of sterilization. That woman should not be submitted to repeated abortions. If you are sure, after competent consultation, and it is decided that she should not have any more children, I believe sterilization is justifiable.

The doctor mentioned the death rate. I think he confused the death rate in the colored section, which were not deaths in the Hospital. That was a combined study of cases delivered at their homes and cases delivered in the Hospital. In the hospital the mortality was 29 cases out of 3,400, a little less than 1%.

The question was asked as to nutrition. One of the important parts of the antepartum clinic is to advise these women as to the character of their diet. With the cooperation of the social service department, we find out whether the diet ordered can be obtained by the patient. It is easy to order a diet sometimes that the patient

cannot afford. Then the question of substitutes must be considered and worked out. That is one of the important things in handling toxic cases.

We frequently bring cases showing symptoms of toxemia to the Hospital for a few days, after which they are allowed to go home, with instructions as to their care. They are carefully watched in the antepartum clinic. If they improve they are allowed to remain at home. If there is recurrence of symptoms they are brought back to the Hospital, sometimes four or five times in the course of a pregnancy. The main point is early registration and early physical examinations. Obstetrics is not a simple problem. A woman needs complete physical examination, she needs more than guidance as to pregnancy, she needs treatment for any pathology that may exist.

Thank you all.

A rising vote of thanks extended to Dr. Studiford by members of the Section.

Dr. Mongan: That proposition will be considered here today by the appointment of a committee. The reason for the appointment of such a committee is this. The Speaker of the House of Representatives of the Massachusetts General Court is going to appoint a recess committee. This recess committee will consider these topics; namely, 1st, whether or no midwives should be licensed and regulated by statute in Massachusetts; 2nd, to consider the claim of the chiropractic for the right to practice; 3rd, the matter of registration of medical practitioners. I hope every one will bear in mind that the medical profession will be called upon to aid the legislative committee in its work. These questions concern us as medical men and as medical men we ought to give assistance to the committee so that safe and sane regulations may be passed.

#### ROUND TABLE CONFERENCE

Dr. Mongan: The title of the subject for a Round Table Conference this afternoon is: "Should the International Classification of Deaths in the Puerperal State be Modified."

Before we enter into a discussion of this proposal, it might be well to give to this conference a short explanation of the meaning of the title of our conference.

Until recently, few physicians realized the meaning of the expression "death in the puerperal state." At the expense of being charged with being boresome, let me repeat the definition of death in the puerperal state. The term "puerperal" is intended to include pregnancy, parturition, and lactation. Whenever parturition or miscarriage has occurred within one month before the death of the patient, the fact should be certified, even though childbirth may not have contributed to the fatal issue. These deaths are the so-called maternal deaths to the laity. The expression maternal death is not used

in scientific medical literature nor does it appear in statistics.

A few words of explanation of the International Classification of the causes of death would not in my opinion be out of place at this time.

It will readily appear to you that no progress in sanitary science could be made unless there was a method of comparison of the causes of death between different countries or parts of the same country. If we are to compare the mortality rates of one section of this country with mortality rates of another section of this country, some uniform method must be devised for compiling these records. That the method used should be reasonable, fairly accurate, and reliable must be admitted. And further the mortality rates in any country, admitting that they are made honestly and accurately, are the statistical measure of the medical service that the physicians of that country are rendering to the community. It seems to the author that this statement needs no proof. Therefore, every physician should be scrupulously accurate in filling out death certificates. He should keep in mind that in many cases he is on trial. If a death occurs in the so-called preventable diseases, the question will arise in the mind of the loyal, truly scientific physician, what happened in his particular case. So that the accurate classification does concern all who have at heart the reduction of mortality rates. The lower the mortality rates in any disease the greater the efficiency of the practitioner. There is no other way that I know in which the efficiency of the physician can be measured. There is no other way I know by which the laity can judge of the kind and nature of service the profession gives to human kind.

Nearly every civilized country in the world has adopted the international classification as the rule for calculating mortality rates. The same form of death certificate is used in the United States as is used in England and France and in most continental countries as well as in Canada and South and Central America.

So that with a certain exactitude we can compare mortality rates in one country with those of another. From the earliest times, attempts have been made to agree on a scientific classification of disease, for a proper classification was thought necessary for the scientific treatment of disease. It was not until 1911 that a committee on the part of the A. M. A. stressed the importance of adopting the international classification in cooperation with the profession in other countries. The A. M. A. is now represented by a committee to cooperate with the committees in other countries and this international committee meets once in 19 years for revision of the classification.

Although we are now working under an international classification the method of using the classification varies somewhat in different countries and the results that are obtained vary, and

the variance when compared with results classified in U. S. puts the U. S. statistics in a position which is not warranted.

The author believes that for the most part, the classification is an excellent one. The method of calculating mortality rates in obstetrics is as follows:

All deaths in the puerperal state are compared to the number of live births, including still births, so that if we have a number of deaths such as for instance following abortions, these deaths are compared with the number of live births. It is not possible to compare them in any other way. Deaths following abortion should be compared to the number of abortions that occur but there is no way of ascertaining the number of abortions that occur in any given country.

In England, and that means England and Wales, deaths in the puerperal state are divided so that the English classification is somewhat as follows: Deaths that occur in the puerperal state and a sub-division, called, deaths that are associated with pregnancy such as pneumonia, influenza, tuberculosis, and the so-called Brights disease. In the United States no such division is made as far as we can ascertain from census or state reports. Moreover, in case births are not accurately reported there will be a difference in the rate.

If we had the same accurate birth registration as practiced in European countries, you would see some difference in regard to the statistics of so-called maternal deaths. In the old countries, birth registration laws are very rigidly enforced, especially in those countries having strict military laws. Every birth must be registered and accounted for. Americans are very lax in observing the law in regard to birth registration. Some states have no birth registration worthy of the name. If we have no accurate birth registration we cannot fairly compute the maternal mortality rate. In arriving at maternal mortality percentage rates for any country, the number of deaths in the puerperal state are compared with the number of confinements, that is the number of births including still births.

In 1920, under the heading of "Deaths Associated with Pregnancy," according to the report of the Registrar General of England and Wales, there were 1,086 deaths in the puerperal state which were not due directly to pregnancy, but associated with pregnancy, such as pneumonia, influenza, tuberculosis, and the so-called Brights disease. If these deaths were included the rate would have been raised from 4.12 to 5.46 per 1,000 live births. In Massachusetts, we have no such exceptions. We have been told at various times that U. S. occupies the sixth position in puerperal mortality rates among the nations of the world. But if we were allowed to deduct the diseases associated with the puerperal

state, the author feels that the rate would be appreciably lower.

The Massachusetts State Department of Health recently issued a report in which it was stated that there were more maternal deaths in Massachusetts than were reported by the official authorities.

In this report, there were recorded 132 maternal deaths more in Massachusetts than appear in the official report issued by the State Registrar of Vital Statistics. It is true that the compiler of this list of the State Department was a statistician and not a physician. No notice of the Health Department publication would be taken by me today were it not for an incident that occurred last winter at a hearing at the State House. The incident is as follows: A legislative committee was hearing an advocate for a bill which had for its object the granting of certain maternity benefits to expectant mothers. The advocate for this bill did not quote the official figures which are the records of these deaths and are published as the true authoritative records of the Commonwealth, but quoted the figures that were compiled by the statistician of the State Department of Health; and further contended as the number of these deaths was large, therefore, Massachusetts should enact a maternity benefit law. I will quote from the publication of the State Department of Health some of the causes of death, as deaths in the puerperal state, and I will ask you to judge whether or no these deaths are properly classified. Forty-two women are said to have died with organic disease of the heart while they were in the puerperal state. The cause of death in the most of these cases was undoubtedly due to the accompanying heart disease and therefore not a true maternal death. In England and Wales, where the same classification is used that is used in the United States, such deaths are recorded as deaths associated with the puerperal state and as a consequence of such a modification the percentage of deaths in the puerperal state in England and Wales appears as less than if the same method of estimating were used as is used in the United States. Again in Massachusetts, I know of death when the patient was operated for acute appendicitis when she was eight months pregnant, who went into labor two days after, delivered herself and died on the fourth day after her operation for the relief of her appendicitis. This death was recorded as a death of puerperal septicaemia, and consequently a death in the puerperal state. According to the method followed by the English, such a death would have been recorded as a death associated with pregnancy and not as a death in the puerperal state.

I could recount other instances of reported deaths in the puerperal state which do not properly belong in the list of maternal deaths. Perhaps we should congratulate the State Depart-

ment of Health for using their publication for it does make our classification rather obscure. Apart from that, I think the State Department of Health publication might be quoted in other parts of the United States as the official record of Massachusetts and it might be quoted as an example of the obstetric service that the physicians of Massachusetts offer to their patients. This would be manifestly unfair and apropos of this discussion, I would like to quote to you an opinion of the United States Census Bureau, (which in the last analysis is the authority in the United States on maternal death rates) the following which occurred in the report of the last census of United States. "It is impossible to say whether or no there is any appreciable increase in United States in puerperal septicaemia because we do not know how many pregnant women there are in the United States." In England and Wales puerperal septicaemia is a reportable disease. There is a difference of opinion whether that is a good plan or not. Perhaps the following figures will be interesting as a side light on reporting puerperal septicaemia. Sir Arthur Newshome in his latest book on "The Elements of Vital Statistics" makes this significant remark in regard to the reporting of puerperal fever in England and Wales.

"That the notification of puerperal fever is incomplete to a varying extent is shown by the fact that in 1920 there were 473 deaths from this condition to every 1,000 cases notified, 508 to 1,000 cases in county boroughs, 706 in other urban districts, and 812 in rural districts. In the rural districts of Wales the proportion of deaths from puerperal fever to cases notified was 1,364 to 1,000!

Notification of cases being so incomplete, study of the incidence of puerperal sepsis on a large scale must be by means of death rates."

The ideal method, and I think it might be adopted in Massachusetts, would be to compare the number of deaths occurring in connection with live births including still births in terms of 1,000 births. In other words to compare the number of deaths at full term in the puerperal state with 1,000 live births inclusive of still births at full term.

Our English brothers have another method in which they are just to themselves. Previous to 1911, deaths from the albuminuria of pregnancy were not included in deaths in the puerperal state. These deaths are now recorded as deaths in the puerperal state. So that when the English compare their death rate of the present decade with decades before 1911, all deaths from albuminuria are taken out of the classification for the present decade. This works to the advantage of the English and Welsh practitioners. Another matter to bear in mind is that until we have an accurate birth registration in the United States it seems useless to make comparisons between this country and the older countries

where birth registration laws are rigidly enforced, because so much depends on a full birth registration. Other factors must be borne in mind, the varied conditions in this vast country of ours, its varying climate, its heterogeneous population, and its large colored population, among whom there is a high mortality in puerperal cases.

I desire to offer the following resolution which is based on the paper which I have just read.

WHEREAS, There is a lack of uniformity among the several states of the United States in reporting deaths in the puerperal state; and,

WHEREAS, This lack of uniformity has placed the United States' death rates in the puerperal state in an unfavorable position; be it

RESOLVED, That the Section of Obstetrics and Gynecology of the Massachusetts Medical Society request that the House of Delegates of the American Medical Association in session June 9, 1924, memorialize the Director of the Census Bureau to the end that the Director of the Census Bureau request the several states of the United States to follow the method, under the International Classification of Diseases, adopted by the Registrar-General of England and Wales, in reporting mortality rates in the puerperal state.

The above resolution was unanimously adopted.

Mr. Edgar A. Bowers, Framingham: I want to offer my apology for appearing here as a layman before all these physicians but I had the invitation from Dr. Mongan. The statement of Dr. Mongan as to the history of the international classification is substantially as it appears. The first efforts were made in 1837, and in 1855 had taken shape in several of the continental countries. In 1893 at the exposition at Chicago the International Committee got together and proposed the international classification, that has been revised every ten years since. The last revision was in 1920. Unfortunately, the Census Bureau at Washington has not yet prepared and furnished the registration officials with the joint index of the causes of death which, by the way, is the basis on which the registration officials reach their conclusions. The question is often asked "How did you arrive at this conclusion" when we have two, three, or more, joint causes of death and the answer we make is that we follow the list of joint causes as furnished us by the Census Bureau. The Census Bureau at Washington follows, in so far as possible, the method adopted by the several countries joining in the international classification, so that in our results we do not favor any particular classification. We are not interested in any particular cause of death in charging the decedents up to the puerperal state or in charging them up to any other morbid condition. We follow the standard, the cut and dried method, that when one, two or more causes appear we



consult the index and take the preferred term. That is the result we arrive at.

There are some cases where a death occurs in the puerperal state where the death is not charged up against the puerperal state. They are few but they do occur. It is because this selective method is followed in our classification office and it is the same method that obtains in every registration office in the United States that I know of. If the Census Bureau is to be memorialized in an endeavor to change their classification or the method of selection proposed by them we will gladly follow whatever they suggest but we must follow their instructions now because Massachusetts is in the registration area and was one of the first states to be included in the registration area, and it is probably wise that there is some central agency that recommends, advises and, in fact, makes it mandatory upon the states in the registration area to follow their advice and suggestion, because if a state does not follow it, it will be dropped from the area.

If the American Medical Association or the Massachusetts Medical Society is successful in having the classification modified and we are so instructed and informed, we will be very glad to follow it. Until that time arrives, however, we must go along possibly in the darkness that has surrounded us thus far, but at least you will know that we simply follow the index of joint causes in charging up this death or that to the various headings. We do not favor any particular group of headings, we do not have knowledge on any particular cause of death more than another, and the result is, I believe, after talking with every physician who has been kind enough to discuss the matter with me, that it is fair, after all. There may be errors but possibly not so many as there would be if one's personal persuasion were allowed to decide for the time being what the cause of death ought to be even though the physician in charge of the case certified in legal manner to what it should be.

Dr. Richard Dutton, Wakefield: Before modifying the classification of deaths in the Puerperal state, it would seem to me wise, to make the birth and death certificates as near "fool proof" as possible.

"The birth records now call for 'present name including maiden name' of mother, where formerly they called for 'maiden name' only. This change has not been well noted by physicians and hospitals and as a result so far as the original record of birth is concerned the present name of mother is not recorded as the same as that of father in a very definite number of cases. In other words, when these children have occasion to look up their records some years hence, they will have a very embarrassing situation to clear up and careless statisticians bent on propa-

ganda will be telling of the flagrant illegitimacy in 1923.

The national standard certificate of birth asks the question "Legitimate?", but I doubt if many physicians would be willing to ask such a question of their patients or record an answer. Up to the present time, no records of birth are certified, although such certification would seem much more important for birth than for death.

Causes of death and contributory causes are now too ill-defined to be satisfactory, as is well demonstrated by the large number of deaths recorded from both pneumonia and influenza in 1918 and 1919, whereas nearly all these deaths were of the same type.

The State Department of Health through its statistician and a staff of "doctors" have investigated all deaths during pregnancy in 1922 as recorded in "the Commonwealth" and their report has therefore been studied for suggestions for changes in classification of the puerperal state. Of course, a very large percentage of these deaths are in no way due to the pregnancy whereas in the official vital statistics they are supposed to be caused directly or indirectly thereby. It seems doubtful if it is safe in the long run from a statistical point of view for investigators who have not seen the cases to change diagnoses of legally qualified physicians who have seen the cases and have signed the official papers. While the statements of the State Department of Health concerning their work, although brief are decidedly ambiguous it is probable and reasonable that they have tabulated nearly all the deaths of the pregnant women, and, so it is safe to compare the deaths among pregnant women with the deaths of all women of child-bearing age—say 20 to 45 years of age to see the influence of pregnancy on mortality.

The general mortality throughout the registration area in the United States, all ages, is approximately 13 per 1000 per year. The mortality of insured women between 20 and 45 is about 5 per 1000 per year. The expected actual mortality of all women between 20 and 45 is not known exactly, but responsible insurance authority advises that the rate is probably about half way between the two figures above given or around 9 per 1000, or possibly a little under.

The State Department of Health with its staff of "doctors" (doctors of medicine, I hope) were able to find 672 deaths during pregnancy in 1922. There were approximately 100,000 women pregnant during this period in Massachusetts. The death rate among these women was, therefore, 672 per 100,000. The death rate among all women 20 to 45 was 850 to 900 per 100,000. In other words, pregnancy with its attendant and widely-heralded dangers does not increase woman's net risk of life.

In fact, there were 200 fewer deaths of women in 1922 because of pregnancy, and the expectant mother has from 25 to 30% less chance of dying

than has the average woman of the same age, and, the "Joys" rather than the "Glooms" should again take charge of affairs and perhaps Massachusetts' birth rate may then stop dropping.

After comparing our official vital statistics with the report of the Department of Health I am strongly convinced that changes in the International Classification should be adopted but only after deliberate and far-sighted consideration.

#### FURTHER PROCEEDINGS

A motion was made and carried that a committee be appointed to study and report on the problem of the mid-wife in Massachusetts. The following members were appointed to serve on the above committee.

Dr. P. J. Sawyer, Fall River  
Dr. P. J. Leary, New Bedford  
Dr. M. H. Paine, Maynard  
Dr. Edgelow, Springfield  
Dr. J. F. Boyle, Lowell  
Dr. Hennelly, Pittsfield

It was further moved and carried that a com-

mittee be appointed to study the problem of recurrent toxemia in pregnancy. The following were appointed.

Dr. Kellogg, Boston  
Dr. Phaneuf, Boston  
Dr. Talbot, Worcester  
Dr. Kickham, Boston  
Dr. Fleming, Medford  
Dr. Ryan, Ware

#### ELECTION OF OFFICERS FOR THE COMING YEAR

Dr. Mongan unanimously elected as Chairman of the Section.

Dr. Irving unanimously elected as Secretary of the Section.

Dr. Mongan thanked the Section for choosing him as chairman for another year. He told the Section that there were certain matters of policy under consideration by the officers which when fully developed and adopted would be of great benefit to obstetricians and to the service that the obstetricians could render to the community. The chairman hoped to have ready a plan for conducting the business of the Section that would recommend itself to the members.

### MEDICO SOCIAL ASPECTS OF HEART DISEASE

BY BESS LYNDE RUSSELL

(Continued from Page 579)

#### 4G. FURTHER STUDY CONCERNING THE POSSIBLE COMMUNICABILITY OF RHEUMATIC INFECTION

This investigation was made from the angle of the presumably well child. The following method was outlined for the conduct of the study:

*Group I:* 25 families to be selected in which one or both parents has rheumatic heart disease, or has had known rheumatic fever or chorea.

*Group II:* 25 families in which it is known that the parents have no rheumatic heart disease, and no history of rheumatic fever or chorea.

(*Sources:* Families in Groups I and II were selected from the hospital files.)

The outline used for this study called for the names, age, sex of the children; dates of any of the following sicknesses,—rheumatic fever, chorea, joint pains, scarlet fever, sore throat. History of these diseases in family or immediate friends is asked in order to locate possible points of environmental contagion. Factors of housing, housekeeping, sanitation, sleeping arrangements, adequacy of income as compared to expense, are considered. In the examination, note is made of the incidence of tonsillectomy, or condition of throat at present.

143 visits were made to homes of patients.

124 families interviewed.

73 appointments made for families for physical examination.

172 individuals examined by physician.

11 families (37 members) were visited by the physicians and social worker together in their homes.

From the study of these 172 patients the following heart conditions were noted: in 4 children, rheumatic heart disease; in 4 children, potential heart disease. An analysis according to the grouping I and II is shown below:

#### *Group I: Rheumatic Heart Group*

23 families of the rheumatic heart group have been seen

58 children in these families were examined

1 case of rheumatic heart disease in the children of these families has been found

0 case of potential heart disease has been found

#### *Group II: No Rheumatic Heart Disease*

25 families have been seen

66 children in these families

91 examinations made (parents and children)

3 cases of rheumatic heart disease in the children were found

4 cases of potential heart disease in the children were found

Obviously, much more extensive study of this problem is necessary, and in fact is now in progress; full report will be published later after a study of several hundred families has been completed.

From this examination of 172 patients (48 adults and 124 children)—

Rheumatic heart disease has been found in 1 child: in the 23 families where one parent has rheumatic heart disease.

Rheumatic heart disease has been found in 3 children: in 3 families of the 25 where parents have no rheumatic heart disease.

Potential heart disease not found in children of 23 families—Rheumatic Heart Group.

Potential heart disease found in 4 children (in 4 families of the 25—No Rheumatic Heart Group)

#### 4H. SOCIAL CASE STUDY OF 138 CARDIAC PATIENTS TREATED AT THE MASSACHUSETTS GENERAL HOSPITAL

Skillful medical diagnosis and treatment are the most important factors in the care of cardiac patients. However, to secure prolonged convalescent care, to insure decency of home conditions, to arrange school activities within the range of the handicapped child, to foster vocational guidance within the interests and intelligence of the patient, to find suitable industrial placements and to keep the patient consistently under medical supervision are social problems of great significance to the cardiac patient.

The object of the following study is to indicate the medico social treatment in relation to 138 cardiac patients.

**Selection:** 38 cases were chosen by case workers on the basis of interesting data as failures or successes.

100 were chosen at random.

Records were selected over a period of 7 years.

**Length of Supervision** (not including medical follow-up in the clinic):

1-6 months	28 patients
7-12 months	21 patients
1-2 years	56 patients
2-3 years	28 patients
over 3 years	4 patients
unknown	1 patient

138 patients

The prime reason for referring patients to the Social Service Department:

1. Home investigation, including bed-care	56%
2. Chronic care	21%
3. Employment	11%
4. Miscellaneous	12%

**Age—Sex—Civil Status:** In considering the statistics in relation to age it will be noted that the majority are children and young people.

Age—50 or 38%, are children 2-14 years of age. 18, or 13%, are young people 14-20 years of

age, 64, or 48%, are adults over 20 years of age.

Sex—Male	57	Civil Status—Single	88
Female	81	Married	42
		Divorced	8
	138		138

**Nationality Consideration:** Since 64% of our patients are native born, at first glance our nationality problem appears of minor consideration, but by adding to the foreign-born element the patients brought up in immigrant homes, the picture (65% of foreign extraction) is nearly reversed.

An analysis of the nationality groups follows:

American born of more than one generation	American born of one generation	Foreign born
48	41—Italy	13 49—Italy
	Ireland	13 Russia
	Russia	3 Canada
	Canada	2 Poland
	Armenia	1 England
	Poland	1 Sweden
	France	1 Greece
	Norway	1 West Indies
	Austria	1 Armenia
	—	Germany
	41	Austria
		Portugal
		Syria
		—
		49

It will be noted that the largest group of foreign extraction is the Italian—28, or 31%.

For the following reasons, nationality considerations are important factors in a campaign against heart disease.

- Standards of living** are frequently lower in the homes of the foreign-born: these families, oftentimes large families, live in congested living and sleeping quarters, on a small budget. Therefore, an intelligent adherence to a hygienic régime, which is so important in the daily life of the cardiac, may be difficult to attain in terms of:
  - Decent sleeping arrangements with adequate space, ventilation and quiet.
  - Suitable facilities for prolonged bed care; and later for daily rest periods and the gradual resumption of activity.
  - A budget adequate to provide nourishing food, decent living conditions and freedom from worry.
- Intelligent Discipline** on the part of parents is an important requisite in carrying out the doctor's recommendation for the children. Yet, in many immigrant homes the children, having gained so-called "American ideas," have become discontented and undisciplined in facing the conflict of filial regard and new standards. The social worker's task in this situation is not alone the elevation of living condi-

tions but is quite as much the interpretation to both parents and child of values in foreign as well as American life. The acquisition of such material knowledge would do much to foster that type of discipline necessary to carry out the recommendations as prescribed by the physician.

3. *The Unskilled Immigrant*, fitted only for laborious work, offers another perplexing situation. The doctor's recommendation for "light work" usually presents the question of re-education; and language disability adds another handicap to the problem of industrial placement.

**Home Conditions:** In analyzing a cross section of the 138 families it was found that between 23% and 40% were handicapped by either overcrowded housing or financial conditions.

- a. *Housing:* Twenty-one of 91 families, or 23%, showed evidence of overcrowded housing conditions, using as a gauge a minimum standard of 5 members living in 4 rooms. Although to estimate accurately the degree of congestion in these homes other considerations, such as the age and sex of the members of the family, the degree of health, the size of the rooms, and the number of windows and beds, enter in, the following statistics will roughly indicate the congested conditions in these families.

	Families	Members
Living in the space of 2 rooms	1	with 5
Living in the space of 3 rooms	9	with 5-9
Living in the space of 4 rooms	5	with 6-8
Living in the space of 5 rooms	3	with 8-9
Living in the space of 6 rooms	3	with 11-13

Total living in congested quarters 21

- b. *Financial Status:* Miss Ruth L. White of the Nutrition Division of the Community Health Association, suggested that the data on wages versus the number in the family, might be interpreted on two bases. In computing budgets for the families supervised by the Mother's Aid Department, Division of Public Welfare, an allowance of \$3 a week per capita for families of 5 members and more, and of \$4 for families of less than five members, provides for the bare necessities, if the mother has good planning ability; that is, it is felt that a family consisting of man, woman and three children, living on a wage of \$15 a week, is maintaining a tolerable standard of living. However, some of the private agencies feel that a slightly higher budget of \$4 a week for families of 5 or more; \$5 a week for families less than 4 members, provides a more adequate minimum standard for decent living. Therefore, the data gathered in relation to the financial status of 77 families (chosen because the social records gave

fuller history on financial status) has been interpreted according to both of these standards. On the basis of budgets prepared on the \$3-\$4 standard, 20 families, or 26%, were living on an inadequate income; on the \$4-\$5 standard, 30 families, or 40%, were living on an inadequate income. The remaining families were apparently self-supporting.

#### (A)

##### STANDARD OF \$3-\$4 PER WEEK PER CAPITA

Families of 4 living on less than minimum income	4
Families of 5 living on less than minimum income	1
Families of 6 living on less than minimum income	2
Families of 7 living on less than minimum income	5
Families of 8 living on less than minimum income	1
Families of 9 living on less than minimum income	4
Families of 10 living on less than minimum income	1
Families of 13 living on less than minimum income	2

Total 20

#### (B)

##### STANDARD OF \$4-\$5 PER WEEK PER CAPITA

Families of 3 living on less than minimum income	2
Families of 4 living on less than minimum income	5
Families of 5 living on less than minimum income	2
Families of 6 living on less than minimum income	3
Families of 7 living on less than minimum income	7
Families of 8 living on less than minimum income	3
Families of 9 living on less than minimum income	5
Families of 10 living on less than minimum income	1
Families of 13 living on less than minimum income	2

Total 30

A few other interesting facts in relation to financial status were as follows:

1. The average income of families of 4 and 5 members averaged \$25 per week.
2. The average income of families of 6-8 members averaged \$23 per week.
3. Of 22 patients living alone 18 were recipients of charitable aid.
4. Of 52 families of 4-8 members, 20, or 38%, received charitable aid.
5. Considering the whole group of 138, 42% received charitable aid.

This evidence of dependency, in at least 42% of the 138 families studied, indicates the need of closer coöperation between the philanthropic, educational and industrial forces in the community.

**Cardiac Diagnosis:** The etiological diagnoses of 126 of the 138 cases under discussion is as follows:

Rheumatic heart disease	96	76%
Arteriosclerotic heart disease	14	11%
Syphilitic heart disease	3	2%
Miscellaneous	13	10%

These statistics again stress the fact that so large a percentage (78%) of cardiac diagnoses fall into the preventive groups of rheumatic and syphilitic heart disease.

Over half of the 138 patients studied were young people between the ages of 2 and 20.



Forty-five of these young cardiacs showed improvement. A study of their present condition reveals some hopeful aspects in relation to the previous prognosis made.

Original prognosis	Number patients	Present condition
Good	23	19 in excellent condition—at school or work 2 in good condition 2 improved
Not stated	14	12 improved—at school or work 2 improved
Fair	6	3 improved—at school 3 improved
Poor	2	2 improved—at work or school

The remaining 23 patients (in the group of young cardiacs) showed no improvement—2 died.

An intensive study of 38 selected case records was made in relation to prognosis and home conditions.

(A) In analyzing the conditions in 18 adequate\* homes, some of the constructive factors in relation to treatment were:

1. Skilled medical care.
2. Intelligence in the parents or some dominant member of the family.
3. Good school cooperation.
4. Facilities for bed care at home in 12 cases.

a. In 5 cases needing institutional convalescent care, the following reasons were given for removing the child from his home.

1. One patient had a tubercular mother.
2. One patient had a cardiac mother.
3. One patient had a psychopathic father.
4. One home was crowded with small children.
5. One patient was a mother of small children.

5. Adequate finances: (in only three instances was charitable aid needed, and then only for a brief period.)

In the 18 adequate homes:

1. Five patients were found to have poor prognoses, but were receiving adequate chronic care at home.
2. Thirteen patients were found with good prognoses and present condition as follows: 8 normal or in excellent condition, 5 improved.

In all of the poor homes one or several of the following destructive factors were noted: drunkenness, tuberculosis and other pathological conditions, filthy home conditions, broken homes, unsuitable jobs, poor cooperation with the hospital and, most frequent of all, poor discipline of the children. However, the good record, indi-

cated below, proves that there were helpful assets even in these homes. By far, the most valuable was the devotion of the mother; even when sub-normal, but with affection for her child, routine measures were followed out and good results obtained. Capacity, however, was sometimes discovered and utilized in the patient, even though a child, or in some member of the family or among relatives. Valuable assistance was received through educational and philanthropic agencies. The incessant zeal and interpretation of the physicians and social workers to these less fortunate patients and their families, had much to do with their present and usually hopeful condition.

(B) In 15 poor homes—2 patients were found with poor prognoses. 13 patients were found with good prognoses and present condition as follows: 9 in excellent condition, 4 improved.

(C) In 5 cases patients were without close home ties. These patients ranged in age from 37-61. There were no good prognoses in this group; 2 died. However, the only two patients with rheumatic heart disease did show some improvement.

**Occupations:** The occupations of this group were so varied that any detailed account would lack significance. However, such general information as follows may be suggestive:

Manufacturing and Mechanical Industries	22
Skilled	12
Unskilled	10
Teachers	2
Housewives	21
Students in public schools	61
Miscellaneous	27
Unemployed	5
	133

The large proportion of school children and housewives indicates the need for emphasis on vocational guidance and for development of the home as a cardiac resource.

**Social Treatment:** It is the social worker's part to detect obstacles to treatment whether they lie in the patient's economic situation, his character, his ignorance, or in the community resources; to give advice and such assistance as is necessary to overcome the obstacles; to secure the patient's cooperation in planning and carrying out the medical-social treatment.

A knowledge of the availability and function of resources which can peculiarly aid in the treatment of cardiac disease is an important factor in the technique of this type of social work. In this study of 138 cases some of the typical resources used are as follows: the patient's family, relatives, church, school, employers, lodge, hospital doctors, local doctors, district nursing association, baby hygienic societies, dental schools, benevolent individuals, legal societies, vacation sources, convalescent homes, child-placing agencies, family welfare societies—agencies

\*Adequate in terms of cleanliness, quiet, financial status and intelligence deemed necessary for cardiac treatment.

giving financial relief—and the public charities of both city and State.

The planning of convalescence or, rather, chronic care, was such a frequent and varied problem that it might be of interest to know that in the group of 138 patients, long-time care was provided in 112 instances. Note that the family or friends secured 46% of the total care. The resources giving such care are as follows:

	Times
1. The home of the patient	36
2. The home of a relative	15
3. The House of the Good Samaritan	28
4. The Children's Heart Hospital	8
5. The Children's Placing Agencies	9
6. Other convalescent resources, including private boarding arrangements financed by benevolent individuals	16
	112

A few snap-shots of the problems may briefly indicate the wide range of treatment necessary to insure medical and social rehabilitation of the cardiac patient.

#### I. A PROBLEM OF INDUSTRIAL READJUSTMENT

An earnest young married man with rheumatic heart disease was employed on a too strenuous job. He worked at a rubber company as rackman in the packing department; carried from 1800 to 2200 pairs of shoes per night across a room and packed them in a rack; the patient worked under pressure as a given number of shoes had to be packed each night.

A study of the patient's previous history revealed experience in salesmanship. Through cooperation with a vocational bureau the man was successfully placed as a manager in a "chain" grocery store. Interim financial relief during unemployment had been provided by a family welfare society. The patient has been steadily at work since June, 1922. His physician states that he is standing the work well.

#### II. THE BOY WITH A POOR PROGNOSIS

John Smith, a bright boy of 14, was referred to the Social Service Department in April, 1920, with a diagnosis of endocarditis, aortic regurgitation, chronic nephritis. In June, 1920, owing to a serious reinfection, the patient was readmitted to the hospital and his prognosis was considered poor. In June, 1921, the physician in the clinic stated: "The heart is completely compensated and kidneys are O. K. Patient can do light work but should not play strenuous games such as baseball."

This boy had many difficulties to face. A drunken father (now dead); a tubercular mother; institutional care during early childhood; economic stress at home.

A devoted mother; long-continued interest on the part of a settlement worker, especially in the boy's recreational activities; rearrangements of the mother's work that she might have longer hours with her sick son, skilled medical care, freedom from new rheumatic infections, and long-time "follow-up" have certainly been factors in the recent good report of the settlement worker (January, 1923)—that "John is at work, cleaning lamps for — R.R., and is (apparently) in excellent condition."

#### III. "JACKING-UP" HOME CONDITIONS

Annie Finklestein; an attractive and intelligent child of 11 years, referred to the Social Service De-

partment, November, 1915; diagnosis: chorea, aortic regurgitation, slight, rheumatic type—not serious, but needs careful watching.

Immigrant home; mother without disciplinary force; many noisy children. Patient was placed for bed care by a children's society in a foster home and her condition improved. Preventive medical work with close medical and social supervision; school cooperation; summer camp life,—were some of the arrangements made during the first five years. In 1921 there was a slight recurrence of chorea; bed care advised. It was unnecessary, at this time, to arrange for convalescent care outside the home as conditions had been improved; "the home was immaculate" and discipline adequate; October, 1922, patient at high school; working afternoons 2 to 5, earning \$6 a week.

#### IV. VOCATIONAL GUIDANCE

Italian girl of 16, introspective, psychoneurotic; diagnosis: rheumatic heart disease.

Patient discouraged over physical condition. Outside interests were thereupon developed,—books, work, pride in school record (head of class) and summer camping resulted in the patient's assuming a more normal attitude toward her physical condition. Her father feels that his daughter's change to objective enjoyment is a miracle. Close school cooperation fosters, first, a plan for the patient to become a teacher among her own people. Later, the school principal hopes to secure a scholarship for the patient which will enable her to undertake college work.

Before leaving the analysis of these 138 social records it should be noted that certain phases of our cardiac problem are being given scant consideration.

*Vocational Guidance* is foremost among these. As workers interested in cardiac disease were interviewed, each stressed vocational guidance as most important. Yet such educational work seems at low ebb in Boston, although here and there a well-thought-out piece of work has been accomplished with individual patients. With a Vocational Guidance Bureau connected with our public schools, and a Division for Vocational Guidance and Rehabilitation for handicapped adults established under the State Department of Education, we ought to begin to work out constructive plans in relation to vocational guidance for cardiacs. At the Massachusetts General Hospital the child at the age of 12 to 14 graduates from the children's to the adult cardiac clinic, which is without a special cardiac worker. Though the worker with the cardiac children does instruct patients and parents along vocational lines,—and doubtless this work bears fruit,—yet no intensive program can be effected until the adult clinic has secured the full-time service of a trained cardiac worker who will have the opportunity to devote herself to this time-consuming piece of work.

*The Interpretation of the Personality* of the patient is inadequately expressed in many of the social records analyzed. Is it possible that this lack of interpretation of personality reflects also the lack of such appreciation in the work also? The caliber of the patient, if potentially good, is one of the most valuable assets in all social

planning and should be stressed even more than the more objective and tangible portions of our work. Conscious appreciation of caliber in patients ought then to find expression on the pages of social records.

*The Industrial Placement of Cardiac Patients* and the cooperation with family welfare societies are social problems of much interest and will be discussed in detail under a later heading.

Perhaps the four greatest assets which have been developed in the fight against heart disease and stressed in this study are:

1. Measures for preventive medical work, consisting of:
  - a. Research as to the origin and spread of rheumatic infections.
  - b. The close control of potential rheumatic heart cases.
  - c. The stamping out of syphilis.
  - d. The early recognition and treatment of exophthalmic goiter and hypertension.
2. The home as an educational factor.
3. Cooperation with the public schools.
4. The development of resources for convalescent and chronic care through:
  - a. The development of home as an asset for medical care.
  - b. The Child-Placing Agencies and convalescent homes and special chronic hospitals which are equipped to give specialized care for cardiacs.

#### 41. THE COST OF HEART DISEASE: AN ANALYSIS OF THREE SOCIAL SITUATIONS

*Résumé of Study Made by Miss Elsie Wulkop and Miss Fannie Whitman\**

The cost of heart disease to the patient, his family and the community is illustrated by the three social cases presented below. These cases indicate

- a. The economic problems created by cardiac conditions.
- b. The need for the correlated efforts of doctor, social worker and the community in establishing adequate treatment for patients with heart disease.
- (1.) The first situation considered deals with a family in which several members are suffering with heart disease.

*A. The Social Situation:* The Johnson family (parents and 4 children) lived in one of the suburban Boston in a fairly good neighborhood; a two-story house afforded good light, air and a comfortable furnished home. The father, a stationary engineer, earned from \$20 to \$30 a week; this income was supplemented by the raising of vegetables in a garden of considerable size; chickens, etc. Rent, \$20 per month. The family occasionally became temporarily dependent, and received fuel, clothing, etc. from neighbors or relief-giving organizations. The parents were fairly intelligent, devoted to their family, and cooperated cordially with the Social Service

Department of the Hospital in planning and carrying out treatment.

2. The Family Age		Medical Diagnoses
Father:	45	Heart absolutely normal.
Mother:	44	Rheumatic heart disease; mitral regurgitation; aortic regurgitation; retroversion of uterus.
Walter:	16	Rheumatic heart disease.
Della:	15	Chorea; ? mitral endocarditis.
Ella:	12	Acute endocarditis; mitral stenosis; subsiding rheumatic fever.
Theodore:	9	Patient examined—no final diagnosis—in nervous condition.
Clarence:		(Eldest; died at the Massachusetts General Hospital, rheumatic heart disease, 1914.)

3. Total cost of combating heart disease—	\$943.07*
(During 34 years known to Social Service Dept.)	
a. Cost to the community	\$1143.07
b. Cost to the family	10.00
	\$1153.07
c. 51 weeks of institutional care saved on family budget	220.00
	\$943.07
(Estimated on father's wages per member per week)	

4. A. Cost to Family: Practically the only expense to the family was for transportation, and this was largely met by a charitable agency who brought the patients in an automobile. Estimated cost of railroad fares for family.	\$10.00
B. Savings to Family through Institutional Maintenance: Cardiac members of family were maintained in institutions 51 weeks. Family saved on budget	\$210.00

#### 5. Itemized Cost to the Community (per cardiac patient)

<i>Della:</i>	
Oct. 2-Nov. 6, 1919: Ward care, M. G. H.** (5 wks. @ \$32 per wk.)	\$160.00
Tonsillectomy	5.00
	\$165.00
Nov. 6-Dec. 8, 1919: Foster care (5 wks. @ \$12 per wk.)	60.00
Mar. 22-Apr. 1, 1920: Ward care, M. G. H. (10 days @ \$32 per wk.)	45.71
Apr. 1-June 27, 1920: Convalescent care (Institution) (12 wks. @ \$19 per wk.)	228.00
X-rays and medicine, M. G. H., O. P. D.†	2.00
Free admission, M. G. H., O. P. D. (5 visits @ 15c)	.75
Lunches paid by S. S. D.‡ (5 @ 10c)	.50
Milk for six months	21.00
Transportation by Charitable Agency (estimated)	41.00
Total Community Cost for Della	\$563.96
<i>Ella:</i>	
Mar. 22-Apr. 18, 1920: Ward care, M. G. H. (4 wks. @ \$32 per wk.)	\$128.00

\*Actual cost to institutions given in all statistics.

\*\*Massachusetts General Hospital.

†Out-Patient Department.

‡Social Service Department.

\*Massachusetts General Hospital.

Apr. 18-July 13, 1920: Convalescent care (Institution) (12 wks. @ \$10 per wk.)	\$120.00
Tonsillectomy	2.05
	122.05
Milk for 6 months	21.00
Free admission, M. G. H., O. P. D. (2 wks. @ 15c)	.30
Free lunch paid by S. S. D. (2 @ 10c)	.20
Transportation by Charitable Agency (estimated)	22.69
Total Community Cost for Ella	\$294.15
<b>Walter:</b>	
Free admission, M. G. H., O. P. D. (4 @ 50c)	\$2.00
Free lunches paid by S. S. D. (4 @ 10c)	.40
X-rays and medicine: M. G. H., O. P. D.	.60
Milk for 6 months	21.00
Transportation by Charitable Agency (estimated)	5.40
Total Community Cost for Walter	\$29.40
<b>Mother:</b>	
Nov. 3-Nov. 22, 1919: Ward care, M. G. H.* (2 wks. 5 days @ \$32 per wk.)	\$86.86
Feb. 19-Mar. 16, 1921: Convalescent care (5 wks. @ \$5 per wk.)	25.00
Household appliances to lighten work	10.00
Cost to M. G. H., O. P. D.,† free admission (13 @ 15c)	6.50
Cost to M. G. H., O. P. D., free medicine	1.40
Cost to M. G. H., O. P. D., free x-rays (2)	4.00
Boarding Della and Ella: 5 wks. @ \$8 per wk., each	80.00
Transportation by Charitable Agency	41.80
Total Community Cost for Mother	\$255.56
Total Community Cost for Family	\$1143.67

(B.) Alice Sullivan, 43, practical nurse; earned \$25 per week. When not employed lived with sister (also a nurse) in a single room. The patient previously helped to support her mother who lived in Maine by paying \$2.50 per week for board. Patient has been incapacitated for work since September, 1921, when she fell downstairs in the course of her employment. She received \$18 per week, insurance compensation, from September, 1921, to January, 1922, spending 11 weeks in a convalescent home, at \$15 per week. March 1, 1923, the patient is still incapacitated for work.

1. <b>Diagnosis:</b> Rheumatic heart disease with mitral stenosis; aortic regurgitation; acute and chronic bronchitis.	
2. <b>Prognosis:</b> Good if patient secures proper treatment; although doubtful if she must keep on with her work.	
3. <b>Total Cost of Combating Heart Disease</b>	\$3858.00
Cost to Patient and Family	\$2167.00
Cost to Community	1691.00
4. <b>Itemized Cost to Patient and Family:</b>	
9/4-21-3/1/23 Loss of wages @ \$25 per wk. for 77 wks.	\$1925.00
1/9-2/9/22 Sister cared for patient: estimated @ \$10 per wk.	50.00

9/4-21-3/23 Sister paid patient's share of mother's board (77 wks. @ \$2.50 per wk.)	192.00
(Carefree of patient and sister to hospital, and of social worker to home and community resources, a considerable expense but impossible to estimate.)	
	\$2167.00

5. <b>Itemized Cost to Community:</b>	
9/10-21-1/9/22 Workmen's Compensation (17 wks. @ \$18 per wk.)	\$306.00
2/9-23-3/6/22 Ward care, M. G. H.* (3 wks. 4 days @ \$35 per wk.)	125.00
3/6-22-4/1/22 Convalescent care in private nursing home pending admission to institution for convalescent care—3 wks. 4 days	72.00
4/1-23-6/7/22 Convalescent care (Institutional) (5 wks. @ \$19 per wk.)	95.00
6/7-22-10/22 Cared for by friend (17 wks., believed to be not less than \$5 per wk.)	85.00
10/1922 Workmen's Compensation—"lump sum" (\$275 deducted for lawyer's fees, etc.)	1000.00
Ambulance	6.00
X-rays	2.00
	\$1691.00

(C.) John Regan, 54; stationary engineer; earned \$30 a week; regularly employed until manifestation of heart symptoms June, 1922. Until recently lived with wife and married daughter. Home life unhappy; wife has advanced tuberculosis, now in the South with daughter for treatment. Patient lives with sister who is willing to care for him indefinitely, realizing that her brother will not be able to work again.

1. <b>Diagnosis:</b> Hypertension.	
2. <b>Prognosis:</b> As far as future work and self-support, poor.	
3. <b>Total Cost of Combating Heart Disease:</b>	
June, 1922, to March, 1923	\$880.96
Cost to Patient	\$524.96
Cost to Community	356.00
4. <b>Itemized Cost to Patient:</b>	
Loss in wages (during 9 months)	
16 wks. 3 days @ \$30 per wk.	\$492.86
13 visits to M. G. H.,* O. P. D.† @ 50c per visit	6.50
Carefree	2.50
Medicine—O. P. D.†	6.50
Ward care, M. G. H.*	16.50
Special rate \$7 per wk. for 2 wks.	\$14.00
X-ray	2.50
Total Cost to Patient	\$524.96
5. <b>Itemized Cost to Community:</b>	
Ward care, M. G. H.* (2 wks. @ \$28) (Pt. paid \$7)	\$56.00
Convalescent care, 2 wks.	18.00
Ward care at hospital other than M. G. H.* (11 wks. @ \$24 per wk.)	264.96

\*Massachusetts General Hospital.  
†Out-Patient Department.

\*Massachusetts General Hospital.  
†Out-Patient Department.



X-rays at hospital other than M. G. H.*	13.00
Tests at hospital other than M. G. H.*	5.00
Total Cost to Community	\$356.00

## 5. CARDIAC CLINIC PROBLEMS OF BOSTON

### 1. *The Need of Developing and Improving the Facilities of Existing Clinics; the Need of Additional Clinics in Boston.*

In spite of what local medical doctors have been able to do in the treatment of cardiac patients, the demand for such treatment has been so great that it has been found necessary to establish cardiac clinics in urban hospitals, for the care of patients unable to pay private practitioners. Already eight clinics have been developed in Boston,\*\* and still the demand for treatment is greater than the facilities afforded for such care. The following cardiac statistics, gathered at the Massachusetts General Hospital, prove that fact and are undoubtedly indicative of similar needs in other hospitals in Boston:

1082 new patients were diagnosed as cardiacs in the year 1921.  
865 cardiac patients attended the out-patient clinics; yet only  
284†, or 33%, attended the cardiac clinic.  
350 cardiac patients, or 40%, visited the clinic but once.

In addition to this large group of cardiacs found in our hospitals, the consideration that 2% or more of industrial workers and school children in Boston, in 1921-22, were found to have heart disease, gives some conception of the need for developing adequate clinic resources for many of these patients.

The map of Metropolitan Boston shows that many cardiacs living in the south and southwestern section of the city—where five of the eight cardiac clinics in Boston are located—come to the Massachusetts General for treatment. It is probably true that these other clinics draw as largely from the West End district where the Massachusetts General is located. This situation raises the question of making clinic resources more available for cardiacs by districting the city. Philadelphia and New York have both found this to be a feasible plan. The New York Association for the Prevention and Relief of Heart Disease has districted the city so as to coincide as nearly as possible with the established districts of the New York Tuberculosis Association, which are already familiar to most social workers. For various reasons this has worked out well as it has limited long distances for patients, thereby accomplishing completion

\*Massachusetts General Hospital.

\*\*Peter Bent Brigham Hospital, Children's Hospital, House of the Good Samaritan, Boston City Hospital, Boston Lying-In Hospital, Massachusetts General Hospital (2 clinics), and the Boston Dispensary.

†It may be best not to refer, at least for more than consultation, all cardiac cases coming to a dispensary, to a special clinic—lest for the efficiency of both general and special clinics.

of preventive or curative measures more readily and has, of course, proved an economic saving for patients; a larger field of work is covered by the social worker who is able to visit her patients in a limited district. In the New York plan consideration is also given to the patient who insists on remaining with "her" doctor, and to the doctor particularly eager to continue supervision in a case of unusual medical interest.

The situation in Boston, however, is quite unlike that in New York. Long distances are not so important a factor, and traveling facilities are readily available for patients. In considering the district plan in relation to cardiac clinics in Boston, some of the following suggestions may be important for consideration: The psychological needs of the patient; the research possibilities of the physician who has had a group of patients under his care for a long time; the fact that many cardiacs are referred from other clinics in the hospital; and the difficulty of carrying out the doctor's recommendation for medical treatment—for such transferred patients, when the clinic in question does not have a hospital social worker as a member of its staff.

The map of Massachusetts indicates how many cardiac patients come from all parts of the State for treatment,—not only from Springfield, Andover, Fall River, but a considerable number from other New England States. If heart disease is to be effectively combated, should various centers in New England be studied in relation to their needs and resources, with the idea of developing adequate diagnostic and treatment facilities to care for the cardiac and pre-cardiac patients discovered?

### II. *Ways of Meeting the Cardiac Demand.*

Observations made in New York and Boston, while visiting in various cardiac clinics, were found suggestive in relation to the following problems:

a. *Increasing number of cardiac clinics:* In trying to solve the problem of cardiac treatment for the thousands of patients who seek admission to the cardiac clinics in New York, a great effort has been expended in increasing the number of such clinics. The growth has been rapid—from 3 to 43 cardiac clinics in seven years; yet overcrowded clinics still remain a problem.

b. *Limitation of the size of the cardiac clinic,* in order to secure more intensive medical supervision for individual patients. Dr. William St. Lawrence, St. Luke's Hospital, New York, has more nearly approximated the smaller clinic in two ways, in his children's cardiac clinic.

1. *Coöperation of the patient and his parents with the doctor and social worker is demanded.* A test of coöperation is made at the time of application for admission to the clinic. The child is required to enter the observation ward at the hospital for 48 hours in order that a complete physical examination and various tests shall be made. Parents refusing permis-

sion are not allowed to enter the child in the clinic. An initial interview by the social worker and doctor impress upon the patient and parent the necessity of working together throughout treatment. Cooperation to insure necessary tonsillectomies, dentistry, convalescent care, etc., are expected and the response of the patients observed was prompt and cordial.

2. *Discrimination in the amount of medical follow-up:* As many of the patients have been known to the physician and social worker over a long period of time, and the physical condition and personality of the patient, his home conditions, the disciplinary capacity of the parent known, much discrimination is used in the follow-up work. At each clinic the social worker, in the light of diagnosis and social conditions, determines the frequency of follow-up. Parents are urged to communicate with the social worker for advice in case of any acute illnesses which may arise.

3. *Referring back to the medical clinic patients* who are not particularly in need of cardiac experts, is a common device for limiting the special clinic.

4. *Concentration on certain types of diagnoses:*

a. Dr. George P. Denny of the Peter Bent Brigham Hospital, Boston, endeavors to exclude the elderly chronic and patients of the hypertensive groups, and concentrate on rheumatic and potential heart disease, referring other patients back to the medical clinic.

b. Dr. Paul W. Emerson at the Children's Hospital, Boston, takes only cases of actual heart involvement.

c. *Development of Clinics where intake must necessarily remain heavy:* An example of intensive development of a special clinic has been brought about by Dr. John Wyckoff, physician in charge of the cardiac clinic at Bellevue Hospital. The regular clinic staff includes ten physicians, assisted by 10 senior medical students, a dentist, 4 volunteers and a full-time social worker. Laboratory facilities and cooperation with the pre-natal and venereal clinics and hospital wards are important aids in diagnosis and treatment. The clinic is held on Friday evenings and thus meets the needs of working men and women—an added advantage of the Friday night clinic is the opportunity which it affords for rest in bed, over the week-end, when such care is necessary, with the loss of but a half a working day for the patient.

d. *Interpretation of functional capacity of cardiacs to lay agencies that are planning socially for such patients:* The following classification of patients, according to the functional limitation of the heart's capacity, has been adopted by the New York Association of Cardiac Clinics and the New York Association for the Prevention and Relief of Heart Disease, as an

aid, especially for social agencies, in carrying out treatment.

*Class I.* Patients with organic heart disease who are able to carry on their habitual physical activity.

*Class II.* Patients with organic heart disease who are able to carry on diminished physical activity.

A. Slightly decreased.

B. Greatly decreased.

*Class III.* Patients with organic heart disease who are unable to carry on any physical activity.

*Class IV.* Patients with possible heart disease. Patients who have abnormal physical signs in the heart, but in whom the general picture, of the character of the physical signs, leads us to believe that they do not originate from cardiac disease.

*Class V.* Patients with potential heart disease. Patients who do not have any suggestion of cardiac disease, but who are suffering from an infectious condition which may be accomplished by such disease; e. g., rheumatic fever, tonsillitis, chorea, syphilis, etc.

Thus, if a patient is referred to a convalescent resource by the hospital social worker, a card bearing the classification, together with other data as to diagnosis and treatment, is sent in explanation of the patient's needs. Upon discharge from the convalescent home, the card is returned with a statement of the patient's condition to the social worker. In an article by Dr. Robert Halsey—"What Can the Association of Cardiac Clinics Do?"—a sample and interpretation of this card is given.

e. *Gatherings of medical data for research purposes:*

Elaborate statistical records\*\* are being compiled for research purposes by physicians in cardiac clinics in the larger cities, in cooperation with the New York Association for the Prevention and Relief of Heart Disease. The limited time at the disposal of physicians, and the meager amount of clerical aid, is considerably handicapping this effort.

III. *What Does the Organization of a Cardiac Clinic Mean?* Since the suggestion has been made to increase and develop existing cardiac clinics, the needs of a typical cardiac clinic, in terms of personnel and resources, are indicated as follows:

#### Personnel

*First:* The Physician must be an expert in the diagnosis and treatment of heart disease; he must be interested in the development of the work to such a degree that he will give generously of his time.

\* "What Can the Association of Cardiac Clinics Do?" By Robert H. Halsey, M.D., New York. Reprint from Medical Record, Sept. 10, 1921.

\*\* Clinical Charts Recommended by the Association for the Prevention and Relief of Heart Disease. The Plan for Their Use. Alfred E. Cohen, M.D. Reprinted from Jour. A. M. A., May 20, 1922, Vol. 78, pp. 1559-1562.

*Second:* The *Social Worker* must be well trained as an executive and social case worker, giving full time to making medico-social adjustments for cardiac or pre-cardiac patients.

*Third:* The *Clinic Executive's* task is three-fold:

- a. Assist in the preparation of patients for the doctor.
- b. Act as clinic secretary:
  1. Aiding the doctor with details in the clinic.
  2. Assuming the responsibility for the medical follow-up of all patients known to the cardiac clinic.
- c. Acting as scribe in compiling elaborate statistical records for research purposes.

*Resources*

*First:* *Clinic Quarters* must be adequate to insure quiet for the doctor and some degree of privacy for the patient.

*Second:* *Clinic Management.*

- a. There are at least three ways of organizing a clinic.
  1. The physician may see the patient apart from the other patients, with only the social worker present, in a separate room. This insures quiet for the doctor and privacy for the patient. Dr. George P. Denny, Peter Bent Brigham Hospital, Boston, manages his clinic in this way.
  2. The physician may see all the patients as a class, allowing each one to profit by the failure or success in the experiences of his fellows. This group psychology has real value in terms of encouragement, coöperation and education. However, unless the physical examination is made in a room apart, this plan does not insure quiet or privacy.
  3. A half-way class method is used by Dr. William St. Lawrence, St. Luke's Hospital, New York. By the use of several rooms it is possible to have in the examining-room only the three patients attended by the three physicians. There is enough distraction in such an arrangement so that the patient feels a certain degree of privacy, yet at the psychological moment any of the physicians may attract the attention of the small group and utilize the values which are to be found in group reaction.

*Third:* *Close coöperation with other clinics* such as the medical psychiatric, venereal and pre-natal clinics; a system for tying up hospital and special clinic cases and extensive use of the laboratory are other important means of insuring adequate medical

treatment for cardiac patients.

*A Model Clinic:* A model clinic for cardiac children at St. Luke's Hospital, New York, is carried on under the direction of Dr. William St. Lawrence, with the assistance of Miss E. Louise Adams, Social Worker. The quarters are adequate and consist of a general waiting-room, a preparation and examining-room. Patients are called in turn from the waiting-room to the preparation-room where two volunteers have charge of weighing the patients, taking pulse and temperature and preparing them for the doctor. Weight, pulse and temperature are written on a slip and presented, with the patient and medical history, to the doctor in regular routine. It is planned to have the doctor copy the weight, pulse and temperature on the medical record as well as write the medical history and findings as a psychological aid in visualizing the problems of each patient. In the examining-room three physicians assist in the treatment of patients, each aided by a clinic secretary who attends to all details and is responsible for reporting medico social problems to the social worker. Miss Adams is in the clinic during the entire time, giving general oversight, and is in readiness to consult with any of the physicians when called by the clinic secretary concerning social problems. In relation to old patients, she is constantly interpreting to the physicians the present social status of the patient. The advantages of hospital observation for a period of 48 hours as a requirement for admission to the clinic, and the values of group reaction by means of the class method, have already been emphasized on page 15. Dr. St. Lawrence outlines the units necessary for the organized care of cardiacs as follows:

1. Clinic Class.
2. Social Service.
3. Nose and Throat Department.
4. Dental Department.
5. Hospital, Ward, Laboratory, X-ray Department, Electro-cardiographic Department, Consultations.
6. Exercise Class.
7. Education (Mother and Child).
8. Country Home.

*(To be Continued)*

COLDS, like the proverbial bad penny, always turn up and are passed on. This is the season for colds.

Colds are spread by coughing, sneezing and spitting, and you are likely to reinfect yourself and continue your cold by using the same handkerchief constantly. A common cold often becomes an uncommon danger.

The loss in working time and reduced efficiency caused by colds is enormous and runs into many millions of dollars annually; while the physical damage done as the result of colds, pneumonias and even death can be measured only in sorrow and not in dollars and cents.

**Case Records**  
of the  
**Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN  
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY

RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

**CASE 10401**

*First entry.* An American motorman of fifty-two entered June 7.

F. H. Unimportant.

P. H. He had scarlet fever in childhood, followed by paralysis of the right side of the face. At seventeen he had gonorrhea without sequelae. At eighteen and nineteen he had two soft chancres, removed with caustic with no sequelae.

*Habits.* He occasionally took alcohol. He chewed a plug of tobacco daily.

P. I. The November before admission he began to have dyspnea on exertion, to tire easily and to feel "seedy." He had slight hacking cough at times. Seven days before admission he felt a "full tickling sensation" in the throat and brought up about half a cupful of bright red blood mixed with phlegm. Since that time he had raised about half a cupful of blood daily, from a teaspoonful to a tablespoonful at a time. Five days ago he noticed edema of the legs. Since the onset his appetite had been poor. He occasionally urinated at night.

P. E. A well nourished man lying half recumbent without great discomfort. Frequent hacking cough with bloody sputum. Cyanosis of skin, hands, feet, and mucous membranes, especially over the back and chest. Hands and feet cold. Teeth, a few stained and necrotic snags only. Apex impulse of the heart in the sixth space  $5\frac{1}{4}$  inches to the left of midsternum, corresponding with the left border of dullness. Right border of dullness  $1\frac{1}{2}$  inches to the right. Action regular. At times gallop rhythm. P<sub>2</sub> slightly accentuated. First sound at apex sharp, but partly replaced and followed by a soft harsh blowing systolic murmur transmitted to the axilla and the base, where it was faint. In the tricuspid area a faint blowing systolic murmur of slightly different pitch. Pulses of fair volume, otherwise normal. Artery walls palpable and a little thickened. Slight lateral excursion of brachials. Lungs. Many fine and medium moist râles at both bases. Abdomen. Liver dullness fifth space to two inches below the cos-

tal margin in the right nipple line, where a smooth, round, tender edge was felt. Genitals normal except for very tight foreskin. Extremities. Marked soft edema of upper and lower legs and feet. Some edema over sacrum.

T. 97°-100.6°. P. 95-120. R. 20-39. Urine. Normal amount, sp. gr. 1.015-1.006, a very slight trace of albumin at one of three examinations. Blood. Hgb. 90%, leucocytes 20,000, polynuclear leucocytosis. B. P. 145. Sputum. Blood-streaked at one of two examinations, no tb. at either, no Herzfehler cells.

With rest and opiates the patient improved considerably. The edema became much less. Theobromin produced fair diuresis, and there was very good catharsis from salts. The heart decreased a little in size. By June 15 there was no dilatation of the right ventricle, the edema of the legs was entirely gone, and the liver could scarcely be felt. He had taken seven and a half grains of theobromin every four hours since admission without toxic symptoms. As some congestion of the lungs persisted he was started upon digitalis. He was up and about, eating and sleeping well. June 19 there were still a few râles at the bases and a little bloody sputum. He improved steadily, was up and about all day with no edema. The heart was regular. June 21 he was discharged with a plan to go into the country and rest for the summer.

*Second entry.* July 5, two weeks later, he returned unable to give a rational history. His friends said that soon after going to the country he began to complain of dyspnea, the cough became worse, and he again had bloody sputum. A week before his reentry his feet began to swell.

P. E. (As before except as noted.) Rather thin, nervous. In worse condition than at first entrance. Skin of face and sclerae slightly jaundiced. Hands and forearms, feet and legs cold and cyanotic. Lips cyanotic. Mucous membranes pale. Skin otherwise clear. Occasional cough. Apex impulse of the heart faintly perceptible in sixth space  $5\frac{1}{2}$  inches to the left. Right border of dullness two inches to the right. Action irregular. Sounds rather faint. P<sub>2</sub> accentuated. First sound at apex distinct, followed by a soft blowing systolic murmur loudest in the region of the apex, transmitted to base and axilla. Pulses irregular, small volume, low tension. Lungs. Slight dullness, diminished breath and fremitus, with many fine moist râles in both bases behind and in axillae, more marked on the left. Abdomen a little prominent, held rigid, partly due to position. Dull tympany, more marked in dependent parts. Dullness shifting with change of position.

T. 96.9°-98.9°, with a terminal rise to 101.1°. P. 81-121. R. 18-33. Urine. Amount not recorded, sp. gr. 1.014, a very slight trace of al-



bumin, bile faintly positive, a few pus cells. Blood. Hgb. 90%, leucocytes 14,500, polynuclear leucocytosis.

There was no reduction in the amount of edema and congestion after large doses of digitalis, so the patient was started on theobromin in addition. He became very comfortable with the aid of codeia. The heart became steadier and the pulse of better volume. There was, however, no diuresis. He failed steadily. There were increasing signs of fluid at the right base behind, with some edema at both bases and increase of edema elsewhere. The dyspnea steadily increased. From July 11 he grew more and more irrational. A Wassermann reaction was negative. July 12 the heart action was weak. As he was suffering markedly from dyspnea he was given a good dose of morphia. Soon afterwards he quietly died.

#### DISCUSSION

BY DR. RICHARD C. CABOT

#### NOTES ON THE HISTORY

Aside from the possibility of a venereal infection, that is of a syphilitic infection, we have nothing of importance until we come to the present illness, in which the most characteristic symptoms are cough, dyspnea and weakness, with the recent and profuse hemoptysis. As these symptoms are associated with edema of the legs and nycturia, the presumption is that they are due to cardiac or renal disease rather than to primary trouble in the lungs. My guess is that the case is of the hypertensive variety of cardiovascular trouble, with or without a demonstrable nephritis.

#### NOTES ON THE PHYSICAL EXAMINATION

The physical examination adds to our previous data the fact of cyanosis, but unfortunately gives us little information about the blood pressure. A systolic of 145 can perfectly well go with a normal vascular tension, that is a normal diastolic pressure, or with a decidedly abnormal one. The description of the heart gives us little evidence of value except that the organ seems to be enlarged. The equivocal term "gallop rhythm" helps us not at all, and we get equally valueless data in the presence of an accentuated pulmonic second, a sharp apex first sound, and a loud apex systolic murmur. The absence of arrhythmia is however of some importance as tending to exclude a mitral lesion, which otherwise would be perfectly compatible with the physical examination as recorded.

The rest of the physical examination gives evidence merely of passive congestion of the lungs, liver and extremities, together with a urine of low gravity, though we do not know positively that the kidneys' power of concentration is lost.

The negative sputum tends to confirm the presumption previously expressed that there is no primary lung trouble and that the hemoptysis is in all probability due to pulmonary infarct, itself dependent on cardiac disease.

The patient's improvement under treatment is striking but not persistent. With the return of his symptoms after the period of improvement no new facts transpire.

#### DIFFERENTIAL DIAGNOSIS

I return therefore to my original guess made after reading the history and prior to physical examination, namely that the patient is suffering essentially from a hypertensive type of heart trouble with hypertrophy and dilatation of the heart and general passive congestion.

There is no good evidence of any extensive damage to the kidney, though the facts given us about the urine are perfectly compatible either with a chronic nephritis or with an arteriosclerotic degeneration of the organ. There is probably some damage to the kidney, though this is by no means proved.

In view of the hemoptysis and probable pulmonary infarct we may expect to find intracardiac clots, especially on the right side of the heart; also an arteriosclerosis such as is almost always associated with this type of disease, though just what part if any it plays one cannot say.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Myocarditis.  
Hypertrophy and dilatation of the heart.  
Mitral and aortic regurgitation.  
Edema of the lungs and brain.  
General anasarca.  
Pulmonary infarcts.  
Right hydrothorax.  
Chronic passive congestion of liver and kidneys.

#### DR. RICHARD C. CABOT'S DIAGNOSIS

Hypertension.  
Hypertrophy and dilatation of the heart.  
Arteriosclerosis.  
Cardiac thrombosis, especially on the right side of the heart.  
Pulmonary infarct.  
Chronic passive congestion.

#### ANATOMICAL DIAGNOSIS

##### 1. Primary fatal lesions

Arteriosclerosis.  
Hypertrophy and dilatation of the heart.  
Thrombi in right ventricle.  
Embolism and thrombosis of branches of the pulmonary artery.  
Infarcts of the lungs with purulent softening.

2. *Secondary or terminal lesions*

Serofibrinous pleuritis.  
Hydropericardium.  
Anasarca.  
Chronic passive congestion, general.  
Edema piaë.  
Icterus.

3. *Historical landmarks*

Chronic pleuritis, left.

DR. RICHARDSON: The pia was markedly infiltrated with thin pale fluid.

The skin generally and the conjunctivæ showed icterus. The feet and legs were swollen and pitted on pressure. The subcutaneous tissues were rather wet.

The peritoneal cavity contained a very small amount of thin fluid. The margin of the liver on the right was 8 cm. below the costal border. The diaphragm was at the fifth rib on the right, the fifth interspace on the left.

The right pleural cavity contained a large amount of cloudy fluid supporting shreds and masses of soft fibrinous material. Material of this sort coated the pleura on this side generally. The left pleural cavity contained only a very small amount of a similar fluid. There were a few old adhesions in the region of the apex on the left. The trachea and bronchi showed some reddening of the mucosa and contained much reddish bloody mucus-like material. The bronchial glands were slightly enlarged, soft and juicy. The lungs showed chronic passive congestion, and on each side there were several large infarcts. The branches of the pulmonary artery leading to these infarcts were occluded by frank embolic masses. Some of the infarcts were soft, broken down.

The heart weighed 502 grams, considerably enlarged. The myocardium and valves were negative. The cavities were dilated. In the region of the apex of the right ventricle a large adhering thrombus. The central portions were somewhat soft and broken down. This thrombus was regarded as the source of the emboli in the branches of the pulmonary artery. The coronary arteries were free, fairly capacious, negative. The aorta and great branches showed a moderate amount of arteriosclerosis.

The liver was rather small and showed nutmeg markings. The spleen, kidneys, stomach and intestines showed chronic passive congestion.

## CASE 10402

A widowed American demonstrator of fifty-seven entered June 5 for relief of dyspnea.

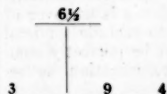
F. H. Good.

P. H. She had had good health except dur-

ing her married life, which had ended in divorce twenty years before admission. For twenty-five years she had supported herself. She had measles and mumps in childhood, typhoid fever at eleven. All her life she had had occasional sore throats. At times she had very severe attacks of tonsillitis lasting a week or ten days, with a temperature as high as 106°. The last attack was ten years before admission. She had "grippe" at fifty-one. For twenty-five or thirty years she had had urgency. For at least twenty years she had urinated three or four times at night. She formerly had occasional dysmenorrhea. At thirty-two she had appendicitis and uterine suspension. At forty-one she had procidentia, for which she had hysterectomy. Following this she had cystocele, repair of which was done six months later. Two and a half years ago she weighed 182 pounds, her best weight.

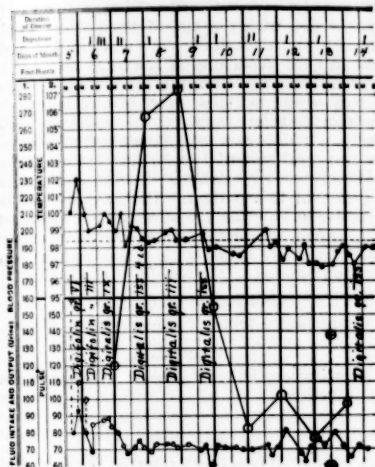
P. I. Forty months before admission she had sudden onset of vomiting which lasted ten hours, severe dyspnea, palpitation with irregular heart beats, marked unproductive cough, and severe pain in the front chest and in the middle of the back at the waist line. Two weeks later her feet, legs and abdomen swelled. She was in bed off and on for six weeks. She was up for four days and went to bed for thirty days. Since that time her history had been a series of stays in one hospital after another.—forty-eight weeks of hospital in all. Each attack had been essentially like the first except that she had vomited only once since the onset. The attacks had gradually become worse, the present, which had lasted eight weeks, being the worst of all. She had never had to have paracentesis, though her abdomen had been very edematous at times. Ever since the onset she had been much troubled with insomnia. A year before admission while she had a cough she spat up two or three ounces of blood daily. She had grown very weak and had lost all appetite. She had vomited only once since the first attack. For six months she had been trying to apply Christian Science treatment.

P. E. An obese dyspneic woman with massive edema of all the skeletal tissues, including the breasts, the abdominal wall, the sacral region, the arms and the legs. Apex impulse of the heart not recorded. Percussion measurements as shown in the diagram. Sounds distant, barely made out (thick wall?). A<sub>2</sub> greater than P<sub>2</sub>. No murmurs heard. Action regular. Electrocardiogram. Normal rhythm. Rate 70. Slightly inverted T. B. P. 138/60-112/82. Lungs. Moist bubbling râles at both bases behind. Abdomen rounded. Organs could not be made out because of edema of abdominal wall. Pelvic and rectal examinations not done. Ex-



tremities. See above. Skin of legs tense, stretched, reddened in places where pressure was most marked.

Until June 14 T. and P. as shown in the chart. Afterwards T. 96°-98.1°, P. 60-79. R. 40-14. Urine, 3,282-78 until June 14 (see chart). No



The temperature is auxiliary except for the high record June 5 and the two following records.

later record. Sp. gr. 1.032-1.002. Alkaline at one of two examinations, 2-3 leucocytes at one. No catheter specimen. No albumin or sugar.

#### SCHLAYER TEST JUNE 13

	Amount	Specific gravity	NaCl	Albu- min
9 a. m.	50 c.c.	1.022		
11 a. m.	280 "	1.010		
1 p. m.	160 "	1.010		
3 p. m.	220 "	1.012		
5 p. m.	100 "	1.016		
7 p. m.	60 "	1.024		
Total day	870 "		2.06 gm.	0
Total night }				
7 p. m.-7 a. m. }	480 "	1.010	1.72 "	0

Urine culture. Moderate growth of colon-like bacilli. Pneumococci. Renal Function. 30%-over 50%. Non-protein nitrogen 31 mgm. per 100 c.c. Blood Hgb. 80%, leucocytes 10,200-4,800, polynuclears 92%-51%, platelets slightly decreased at the second of two examinations. Reds normal. Two Wassermanns negative. Abdominal tap June 5. 500 c.c. of bloody fluid. Clot formed in ten minutes. Sp. gr. 1.013. Cells, 80 leucocytes, 4,000 reds, 55% polynuclears, 45% lymphocytes. No tb. or other organisms. Culture, no growth. Lumbar puncture. 12 c.c. clear colorless fluid. Dynamics normal. No cells. Ammonium sulphate, alcohol and Was-

sermann negative. Total protein 27. Goldsol 0001111331. X-ray. Total transverse diameter of heart definitely increased, with prominence of both right and left sides. Supracardiac shadow rather wide. Region of left auricle prominent.

Orders. June 5. Karell diet for 72 hours, then obesity diet with 1000 c.c. fluids. Morphia gr. 1/4 s.c., then gr. 1/6 every four hours by the clock unless respirations below 15. Digifolin gr. vi intramuscularly at once, and gr. iii every four hours unless nauseated or pulse to 60. June 6. Digitalis gr. iii, then gr. iss every four hours unless nauseated or pulse to 60. Magnesium sulphate gr. iss in a.m. daily. Elevate feet and legs. Catheterize every four hours if not voiding properly. Urotropin and acid sodium phosphate order if patient is catheterized. (Not necessary.) 5 grams calcium chlorid t.i.d. (Not given.) June 7. Morphia gr. 1/6 s.c. p.r.n. for pain. Digitalis gr. iss 2 id. Veronal gr. xv. June 9. Digitalis gr. iss daily. Magnesium sulphate 3 iss three times a week. Veronal gr. x. June 10. Soft solid low caloric diet. June 11. House diet. Veronal gr. x. Morphia gr. 1/4 by mouth if necessary. June 15. Pituitrin 1 c.c. Pyramidon gr. v, repeat s.o.s. June 16. Pituitrin 1 c.c. June 17. Veronal gr. x. June 18. Digitalis gr. iss two days, then omit one day. Calcium chlorid gm. v. t.i.d. June 23. Zinc oxid and lime water wash\* p.r.n. Ruggles cream. Out in chair for half an hour in a.m. and p.m. if pulse does not rise. June 24. Veronal gr. x. (Not needed.) June 26. Continue digitalis gr. iss for two days, then omit one day. On that day give MgSO<sub>4</sub> 3 iss.

After the great diuresis shown on the chart the patient was much improved. She continued to be fairly comfortable under the increased diet, except for headache for two or three days after the lumbar puncture, and by June 24 was in good condition when in bed. June 26 she was discharged to another hospital for a prolonged convalescence.

#### DISCUSSION

BY DR. WILLIAM H. SMITH

Dyspnea at fifty-seven is encountered clinically, when appearing without a previous rheumatic history, in weakening of heart muscle. Whether this weakness is based on arteriosclerosis with degeneration or is the manifestation of muscle deterioration from some toxic focus like gall-bladder or pus around teeth, or whether it is a combination of heart muscle weakness from an overload of weight, that is obesity, with an accentuation of blood pressure, especially a high diastolic pressure, is oftentimes difficult to determine. In this particular case the sore throat history would render a chronic endocarditis pos-

\*Zinc oxid 3 il, calamin 3 i, phenol 3 aa, lime water to make 3 viii.

sible, with an ageing myocardium; the previous typhoid history would make possible a gall-bladder infection with a resultant toxic degeneration of the heart muscle; the attack of grippe at fifty-one might or might not have had a toxic effect upon the heart muscle. Certainly her weight of 182 would suggest an overload.

In the present illness the onset was sudden, associated with pain, vomiting, severe dyspnea and palpitation. One cannot interpret this pain from the history here given—the dying myocardium is frequently preceded by recurring angina attacks until a final coronary occlusion completes the picture. A severe attack of gall-stone colic with the added load thrown upon a weakening heart muscle, by the nausea and vomiting, might have produced cardiac dilatation with symptoms of failure of compensation. It seems fair to infer that there had never been full restoration of cardiac function since the insult forty months before. The presenting picture is one of failure of compensation with associated dropsy. The spitting up of blood could be explained by passive congestion of the lung. There is nothing to suggest tuberculosis. An infarct is possible based either on emboli from thrombi from an auricle or from the inside of the ventricle.

On examination the presenting features are massive edema, dyspnea and obesity, without any increase of blood pressure. The enlargement of the heart probably does not appear in its actual value because of the obesity. There is no evidence to incriminate the valves at this time. Examination of the urine does not suggest the heart as being secondary to a chronic nephritic condition, there is no fixation of gravity, the renal function is adequate, the non-protein nitrogen within normal limits.

The slight fever and leucocytosis at entrance would suggest some acute infection. Whether this was due to a subsiding cystitis or a bronchitis one cannot state. The negative Wassermann, the absence of any murmurs at the aortic area are against syphilis. The abdominal tap gave fluid of a transudate character, as one would expect from the massive edema present. There is no evidence to point to lues from the examination of the spinal fluid.

The X-ray examination of the heart shows definite increase, with both right and left sides prominent. The supracardiac shadow is rather wide, and the region of the left auricle is prominent, rather suggestive of a chronic mitral condition, consistent however with a senile heart dilated, with a senile arch.

The striking thing in the case is the marked diuresis resultant either from digitalis or the use of calcium. I have known a loss of twenty-five pounds a week for three weeks in a water-logged patient where the failure of compensation was based on the pathological chronic endocarditis. I have seen an equally marked diuresis from digitalis alone and in rare in-

stances where, after due consideration because of its danger, calomel had been used for a diuretic. One must always consider in interpreting diuresis the effect of rest in bed and morphia upon a weakening heart muscle.

I do not see how the underlying pathology of the heart lesion can be definitely stated. The absence of a previous cardiac history up to forty months ago with the age of the patient would suggest an underlying arteriosclerotic background with weakening of the heart muscle. I believe further questioning concerning the type of pain would definitely have thrown it into the angina pectoris group or the gall-stone colic group. It does not seem possible that very extreme mitral stenosis would have responded so favorably to any method of treatment as was the case in this patient. The case is most instructive as showing the effect of hospital treatment upon extensive failure of compensation when drugs are mixed with brains and the combination applied to the benefit of the patient.

#### INTERPRETATION OF X-RAY

Findings are those of organic heart disease.

#### DIAGNOSIS

Arteriosclerotic heart disease with decompensation.

#### CASE 10403

A man of sixty-six was referred from the Out-Patient Department June 21 complaining of intestinal trouble.

F. H. Good, except that one sister died of heart disease.

P. H. He had measles as a baby. Ever since he was nineteen he had had asthma until it was cured by an osteopath two years before admission. He hurt a knee cap when young. He had gonorrhea at twenty. At thirty-one a cystic tumor of the neck was excised. For twelve years he had had pruritus ani; for five years left inguinal hernia. For four years he had suffered from "gas," for which he had followed a restricted vegetable diet. Two years ago he had "rheumatism" of the left knee. The same year he fell over a chair, causing he believed the passage of a quart of blood by rectum. He had had all his teeth out because of pyorrhea. He urinated at night twice or so, and had occasional retention. His best weight was 173 pounds.

P. I. A year before admission he noticed a hard aching mass in the right lower quadrant, tender on deep pressure, and a soft mass moving downward from the right groin when he stood erect. Since the previous winter he had suffered from gas and gas pains, and from "hunger pains" in the bowels below the navel. He went to stool to pass gas three to five times a day. For several weeks he had had a loose mushy movement every morning, generally yellow, sometimes white or dark. He had seen



no blood in stools since the passage of a quart two years ago. For the past two weeks he had been on a diet of malted milk and beef tea. He thought he had lost seventy pounds during the present illness. He felt weak, was exhausted after half a day's work, and was dyspnoic after climbing two flights of stairs.

The records of the Out-Patient Department show a visit in August, two years before the present admission. A diagnosis of duodenal ulcer was made and confirmed by X-ray. Under treatment he showed improvement in September. June 12, nine days before the present entry, a barium enema entered the rectum and passed to the hepatic flexure without delay. The colon at this point seemed normal in contour and position. There was a large irregular filling defect involving the ascending colon and the cecum. There was no evidence of peristalsis or bowel markings in this area.

P. E. An emaciated man (weight 102 pounds, height five feet five inches) with flabby muscles and tanned face and hands. Skin dry. All teeth missing. *Heart.* Measurements not recorded. Apex impulse not found. Sounds distant. A slight apical systolic murmur. Pulses normal. Radials palpable. Brachials tortuous. B. P. 115/75. *Lungs* normal. Whole abdomen held rigid, so that examination was not altogether satisfactory. Mass on the right (see

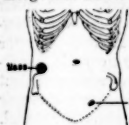


diagram) three inches in diameter, slightly movable. Marked hernia on the left, coming down on cough and easily reduced. A suggestion of hernia on the right, but no definite mass felt. *Rectal examination, genitals, extremities, pupils and reflexes* normal.

Before operation T. 98°-103°, P. 93-108, R. normal, amount and specific gravity of urine not recorded, no albumin or sugar, blood not recorded.

June 24 operation was done. The patient made a fair ether recovery, had very little post-operative shock, and was comfortable the next night, and in good condition considering the length of the operation. June 26 he seemed weak and uremic, passed a small amount of urine showing a slight trace of albumin, and vomited occasionally. His general appearance was poor, though he still was comfortable. June 28 he was much weaker, and comatose. He was febrile, and the pulse was not rapid. There was moderate distension. He continued to pass only small amounts of urine (3 32-28 in twenty-four hours), insufficient for a specific gravity test. That day he died.

#### DISCUSSION

BY DR. EDWARD L. YOUNG, JR.

The general story under the past history would lead one to think that he had about all

the trouble he wanted, even though none of the conditions were really serious.

The quantity of blood lost, as estimated by laymen, from a cut or nosebleed, or hemorrhage from any place, is always interesting because it is never right and generally grossly exaggerated. In this case it probably is very much overestimated.

The evidence of some organic condition in the gastro-intestinal tract is pretty definite. Just where it is or what it is of course is impossible to say on the symptoms alone; but the loss of weight and strength and the mass which he could feel in the right lower quadrant are very suggestive of malignant disease of the cecum, which is of course one of the common places for cancer of the colon. It is interesting to note that they made a pretty definite diagnosis of duodenal ulcer two years before. This confuses us a little in wondering whether his intestinal symptoms may still be due to this, and the mass which is felt is perhaps a cecum clogged with fecal material. But the barium enema helps us again and points toward our original theory of a malignant disease of the cecum, and all the evidence put together would make that diagnosis seem very definite.

The examination does nothing more than confirm the fact that there is a definite mass in the right lower quadrant which is consistent with malignant disease. It would seem as though the only thing to do is to open his abdomen and see whether there is any chance of helping him. Of course the disease may have already spread to glands and to liver in such a way that nothing can be done, unless perhaps an ileostomy just above the mass to prevent the distress of imminent obstruction. Or it may be that radical operation seems possible, in which case it would depend on his general condition as to whether this can be done in one stage or two, the first being ileocolostomy, with an attempt to give him back some strength and nutrition to stand the removal of the diseased mass.

In these cases it is always worth while to remember that the patient is probably somewhat dehydrated, that because of partial starvation he may be acidotic, and that at his age with this size operation coming to him he needs all the reserve possible, so that preliminary treatment with an excess of fluid intake and carbohydrate intake may turn the scale from a fatal to a satisfactory outcome.

#### DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Carcinoma of the cecum and ascending colon.

#### INTERPRETATION OF X-RAY

The findings are suggestive of malignant disease involving the cecum and the ascending colon.

#### PRE-OPERATIVE DIAGNOSIS

Carcinoma of the cecum.

## OPERATION

Gas-ether. Six-inch incision in the right side from just below the costal border to just above the crest of the ileum. A large mass was found involving the cecum, firmly fixed to the posterior abdominal wall. It was mobilized by separating the posterior parietal peritoneum, including the subperitoneal fat. This left the ureter and kidney exposed. The colon was severed at the transverse colon and the ileum just proximal to the ileocecal valve. The ends of the bowels were closed and a lateral anastomosis done. There was very little evidence of growth in the lymphatics. The liver was free from disease. The wound was closed without drainage.

## PATHOLOGICAL REPORT

On section a large ulcerated growth with a shaggy surface fills the cecum. Its lower border is sharply marked off at the ileocecal valve, and there is a wide margin of uninvolved gut at its other end. The mucous membrane above the tumor contains two or three small polyps. On section the walls underlying the tumor are thickened. There are three or four small lymph nodes in the mesentery.

A microscopic examination shows the walls of the gut diffusely invaded by irregular gland tubules composed of atypical columnar epithelial cells. A small lymph node from the mesentery shows hyperplasia.

Adenocarcinoma.

## FURTHER DISCUSSION

The findings at operation are what we expected, and the operation was done apparently quickly and without unnecessary shock. His behavior after operation would seem to suggest that the purely operative end was not grossly at fault, that he did not have the necessary reserve strength to come through, or that the kidneys may not have been able to sustain life with the extra strain of ether and operation. Of course it is possible that there is a general peritonitis present, but we have no evidence of it.

## CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the colon.  
Uremia.  
Peritonitis.  
Operation for resection of the colon.

## DR. EDWARD L. YOUNG'S DIAGNOSIS

Carcinoma of the cecum.  
Peritonitis?  
Chronic nephritis?

## ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*

(Adenocarcinoma of the cecum.)

2. *Secondary or terminal lesions*

General peritonitis.  
Acute endocarditis of the mitral and aortic valves.  
Hemorrhagic edema of the lungs.  
Slight arteriosclerosis.  
Arteriosclerotic degeneration of the kidneys.

3. *Historical landmarks*

Slight chronic pleuritis.

DR. YOUNG: In other words accurate technique in abdominal operations is still important. We must not forget that the majority of these deaths are due to sepsis whether the clinical evidence shows it or not.

DR. RICHARDSON: The abdomen was not distended. The wall was soft. The muscles were thin, pale and rather soft.

The peritoneal cavity contained a small amount of purulent fluid. The peritoneum generally showed much dirty reddish discoloration and was coated with fibrinopurulent material which extended up over the surface of the liver.

The stomach was distended and contained much dirty brownish opaque fluid. The mucosa was rather flat and pale, but otherwise negative.

The small intestine was considerably distended and contained much dirty brownish opaque fluid. The mucosa was negative. The lower end of the ileum was anastomosed with the lower end of the ascending colon. At one place the margins of the anastomosis were necrotic, superficially separated, and infiltrated with purulent material. The walls at the base were more or less necrotic and coated with purulent material. In this region there were adhesions extending to the base of the operation wound in the anterior abdominal wall. The fibrinopurulent material extended from the region into the retroperitoneal tissues down along to the region of the upper part of the right psoas.

There was a slight amount of fluid in each pleural cavity. There were a few scattered pleural adhesions on each side.

The lung tissue showed hemorrhagic edema but was otherwise negative.

The heart weighed 305 grams. The myocardium, valves and cavities were negative except that on the free margin of the mitral valve there was a small brownish soft mass of vegetations and on one aortic cusp there was a small similar mass,—acute endocarditis. The coronary arteries were free. They showed scattered along the intima a slight amount of fibrous sclerosis and a few small areas of fibrocalcereous change. The aorta and great branches showed a slight to moderate amount of fibrous sclerosis with a few areas of fibrocalcereous change in the abdominal portion.

The kidneys showed a slight amount of arteriosclerotic degeneration.

The head was not examined.

DR. YOUNG: Was there any evidence of a past duodenal ulcer? Would you venture to state that there had not been one within two years?

DR. RICHARDSON: There was no evidence of old or recent ulcers of the duodenum.

## BOOK REVIEWS

*Fertility and Sterility in Human Marriages.* By EDWARD REYNOLDS, M.D., Boston, Mass., and DONALD MACOMBER, M.D., Boston, Mass. With a section on The Determining Causes of Male Sterility, by EDWARD L. YOUNG, JR., M.D., Boston, Mass. Octavo volume of 285 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1924. Cloth, \$5 net.

Among the medical books received for review there are a few every year which are preëminent, either because they treat of a relatively new subject or because they present some subject in an especially thorough and striking manner. "Fertility and Sterility in Human Marriages" is noteworthy because it does both these things. Within the past few years much advance has been made in the management of cases of sterility; Dr. Reynolds has been a pioneer in this field. The results of the large experience which he and Dr. Macomber have had in the handling of cases of sterility are here set forth in a clear, convincing manner, with all unnecessary details omitted. The authors' opinions are marked by restraint and judgment, and they do not hesitate to say that their knowledge on certain points is incomplete.

The section by Dr. Edward L. Young, Jr., on The Determining Causes of Sterility in the Male, completes the study. With several of the statements in this section we cannot agree, but they are of minor importance. We doubt that "infection of the vas never results in sterility" (page 134). Nor do the ejaculatory ducts enter the prostatic urethra through the utricle, as is stated on page 137. We believe also that pathological conditions of the seminal vesicles frequently exist independently of disease of the prostate, and occupy a rather more important place among the causes of male sterility.

Throughout the book as a whole the style is excellent. Typographical errors are too frequent, but undoubtedly these will be corrected in later editions. The subject of Sterility is treated from all angles, including that of prevention. The chapter on Relative Fertility, based upon observations on animals, is particularly interesting. We feel that this is one of the important books of the year; it contains much that is new, and is a scientific yet practical presentation of the subject.

*Constructive Conscious Control of the Individual.* By F. MATTHIAS ALEXANDER. New York: E. P. Dutton & Co. 1923. Pp. XXXIII + 317.

This volume may be briefly characterized as of "the every man his own psychotherapist variety." According to the author, adjustment to the environment is provided largely by "sensory impressions" and this adjustment is accepted as satisfactory to the individual if it "feels right" to him. He attempts to devise a method or technique for bringing this sensory material under definite, conscious control, so that the individual will not only "feel right" but actually "be right," for, according to this theory, the former may not at all times be synonymous with the latter. The chief fundamental defect of any such therapeutic effort is that conscious control, under all conditions, whether of attempts at adjustment to the environment or in an effort to neutralize anxie-

ties, phobias or character defects, increases the emotional resistance of the individual. It is these resistances which defeat the aim of all such psychotherapy, in not allowing the free flow of unconscious material, through which alone the sources of the difficulty can be brought into consciousness.

The style is vague, prolix, and with many repetitions. Such terms as "bad habits" are frequently used in a superficial and non-analytical manner, the word "subconscious" is defined as though it were the repository of instincts alone, while the author's ignorance of the genesis of morbid fears would be humorous if it were not so pathetic. He talks glibly of "worries," "emotional gusts" and "mild insanity." Even the most rigid materialist in medicine would not claim that a phobia was caused by "a condition of debauched kinaesthesia!" Nothing could be more superficial and incorrect than the discussion of alcoholism. He does not seem to realize that alcoholism is a symptom and alcohol is taken for various purposes, either as an epileptic equivalent, an escape from an intolerable reality, or because of a repressed homosexuality. He talks as though "mind-wandering" were something definite and concrete, reducible to a psycho-physical formula, instead of being an introverted fantasy whose structure is that of a dream and whose purpose is to escape reality.

These are only a few of the many defects of this prolix volume. On a psycho-physical basis, he attempts to correlate the physical and mental, and states that the creating of a new sensory consciousness will produce a new mental attitude and habits of thought. Is not all this merely a restatement of the old peripheral concept of the emotions, now relegated to the limbo of exploded theories? Attempts have been made in the past to control mental states, particularly morbid fears, by assuming a bodily attitude of bravery, but all such attempts at a practical application of the peripheral theory of the emotions were soon doomed to failure, as they were unsuccessful in reaching the unconscious origin of the fears. In spite of what Mr. Alexander states, man has been, and always will be, under the control of his unconscious. The brief statement on psychoanalysis is full of inaccuracies, for fears or phobias never have their origin in some isolated event or chain of events as the author claims, but rather in the unconscious desire to protect the organism from anxiety.

The eulogies of this book have emanated principally from philosophers, arm-chair psychologists, historians and educators—not one, so far as the reviewer knows, from a trained individual in psychopathology or physiology, the two fields with which it is chiefly concerned.

*Radium Report of the Memorial Hospital, New York.* (Second Series, 1923.) Published by Paul B. Hoeber, Inc., New York. 293 pages. Price, \$5.

For those who are interested in learning the possibilities of radiation in the treatment of cancer, or who employ radium in their own practice, this collection of papers from the Memorial Hospital is bound to prove very well worth reading. There are several generalized sections, one by Dr. Janeway on the technique of radium therapy and another by Dr. Ewing on an analysis of radiation therapy in cancer. There are sections on radium treatment of the various systems—the intra-oral group, rectum, female organs, prostate, bladder, testicle, and penis. The book has the advantage of being based on extensive clinical experience and interest is added to it by the fact that the views of different men are represented. As a whole it represents the changes through which radium therapy is passing and helps the reader to form a more correct estimate of the part which it will play in the future management of malignant disease.

## THE BOSTON Medical and Surgical Journal

Established in 1828

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

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### THE HEARING ON THE BILL TO REGISTER CHIROPRACTORS

THE RECESS COMMITTEE appointed to consider the bills and other matters relating to registration and report thereon, conducted a hearing September 24, 1924, in the auditorium of the State House on the bill designed to legalize chiropractic.

All of the members of the committee, except Senator Rice of Newton, were present. The forenoon was given over to the chiropractors, who argued that since twenty-six states had recognized the system of chiropractic, Massachusetts should fall in line. It was alleged that the poorly equipped chiropractors in the states without registration were a menace, but that wherever this cult is controlled by a board the objectionable features are eliminated. Connecticut, Vermont, New Hampshire and Maine register chiropractors.

A representative of the Connecticut Board of Chiropractic Examiners affirmed that there has been no criticism of this cult in his state, although it is known that the Connecticut Chamber of Commerce has planned to introduce into the Legislature a bill calling for one standard and one board of registration in that state.

The usual fantastic explanations of the theory

of chiropractic were offered, the substance being that through displaced vertebrae the conduction of nerve control or the distribution of energy is prevented and disease results. One of the ardent supporters of the cult used these words, "Mechanical interference with nerve function causes faulty metabolism" which is obvious so far as certain phenomena follow impairment of nerve control but when he affirmed that the chiropractor does not acknowledge a disease entity, that is, disease is never caused primarily by the invasion of micro-organisms, he convicts himself of gross ignorance. He claimed to be able to cure one hundred per cent. of pneumonia cases by adjustment of the vertebrae which allows the "inborn intelligence" of the body to establish normal conditions when freed from the incoordination of interrupted nerve influence. In other words, disease leaves the system when spinal adjustment has been made. He claimed that the mortality of influenza in 1918 under medical treatment was one death per eighteen cases; osteopathy did a little better, Christian Science still better and chiropractic treatment only lost one case in 886.

In comparing chiropractic with medicine he referred to errors in diagnosis in the clinics of hospitals and asserted that chiropractic knowledge of the nervous system exceeds that of the best qualified physicians. He took advantage of the opportunity to advertise himself to good advantage with a sympathetic audience.

Questions by the committee brought out that there are about one hundred and seventy-five chiropractors in Connecticut but that the yearly accessions are less than twenty-five. Chiropractic education in the approved schools covers a period of three years with 2700 class hours of about forty-five minutes each but that in some schools the hours do not exceed thirty minutes and that by continuous study a pupil may cover the course in eighteen months. All chiropractic schools depend upon the fees paid by pupils.

After the practitioners of chiropractic had finished their arguments, several patients testified that they had been cured of serious disorders after having been treated unsuccessfully by many physicians. It seemed quite possible that testimony of this sort, while it is undoubtedly intended to be strictly correct, would be materially different if offered under the custom of court procedure where all statements are open to cross examination.

After the noon adjournment the opposition was heard. Dr. E. H. Bigelow conducted the hearing and introduced the speakers. The arguments submitted were founded on the importance of having one standard for medical practice and that based on a reasonable understanding of the fundamental sciences on which the practice of medicine depends. It was clearly stated that there should be no restriction of the methods employed in treating disease provided that the practitioner is qualified to examine



patients and diagnose diseases. Physicians are not trying to interfere with the application of chiropractic methods if used by properly qualified doctors but are simply urging the state to maintain minimum educational standards for the benefit of the people.

It was brought out that every practitioner should be a factor in the public health policies of the state, which is quite unlikely when the cults, as such, are given the right to practice.

The great advances in preventive and curative medicine were explained by Dr. J. S. Stone, Dr. Eugene R. Kelley and others. Dr. T. J. O'Brien, after showing the advantages of one standard, submitted letters from many prominent citizens, life insurance companies, educators and public officials in support of one standard for medical practice. This gave the member of the committee who has seemed antagonistic to plans for higher standards in medical practice to raise the question as to the occasion of the forwarding of these letters. He reiterated his criticism heretofore made on several occasions of the A. M. A. and the Council on Medical Education and seemed quite disturbed because medical schools have been classified. He appears to deplore the very common custom of studying the condition of business organizations and educational institutions for the purpose of supplying useful information to the public. He was especially incensed when the Chairman of the Board of Registration in Medicine took occasion to correct a misunderstanding.

Dr. J. P. Sutherland and Dr. Charles A. Mongan analyzed the bill presented by the chiropractors and showed its inconsistencies and absurdities. Dr. Mongan emphasized the incongruities of some of the statements made by the proponents earlier in the day.

Representatives of the Worcester, Berkshire and Worcester North Districts, the State Association of Boards of Health, the Medical Examiners and private practitioners all presented arguments along the same lines.

The evidence and the weight of evidence were clearly on the side of those who contend for one standard of medical practice. The presence of a large number of representative physicians indicated a definite desire to cooperate with the Committee on Legislation. Much credit is due to Dr. O'Brien, who has labored unceasingly and effectively in his efforts to interest the medical profession.

The sad feature of the hearing was the absence of those who should be most interested. In all probability very few people other than the chiropractors and the doctors knew of this hearing. Even the guards and elevator men in the State House up to a half hour of the time set had not been informed. It often happens that published notices of hearings are not read.

The licensing of chiropractors is of very little concern to the doctors who appeared in opposi-

tion. They are working in the interest of the people of the state, inspired by the same spirit which has led to personal sacrifice for many years.

## The Massachusetts Medical Society

### SECTION OF OBSTETRICS AND GYNECOLOGY

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THOS. R. GOETHALS, M. D., *Clerk*  
Boston Lying-In Hospital, Boston, Mass.

(Communications and questions directed to the Clerk will be welcomed and cheerfully answered.)

PUERPERAL deaths in Boston for the period beginning April 19th and ending June 16th of the present year reached the total of 26. These are distributed as follows:

Ruptured ectopic pregnancy	1
Puerperal hemorrhage	4
Cesarian Section	3
Pulmonary edema, forceps delivery	1
Ruptured uterus	1
Probably organic disease of heart, with cardiac failure following normal labor and delivery	1
Pulmonary infarction, parturition	1
Puerperal septicemia	10
Puerperal embolism	3
Puerperal albuminuria	1

Of the deaths from hemorrhage one was associated with miscarriage; one with placenta previa; two with premature separation of the placenta, in one of which eclampsia also figured. In the three deaths attributed to Cesarian section chronic myocarditis and bronchopneumonia were associated in two cases, acute myocarditis in one. Cesarian section figured in two other cases, in one of which puerperal septicemia was the cause of death, while in the other death was due to pulmonary embolism. Five of the deaths from puerperal septicemia followed abortion, miscarriage, or "interrupted pregnancy," while one septicemic death was associated with eclampsia. The one death of the twenty six classified under albuminuria was reported as "Normal delivery two weeks before death. Acute exacerbation of chronic heart. Acute nephritis, acute endocarditis, hypostatic pneumonia. Secondary anemia, kidney disease."

This last case is of interest as illustrating a recommendation made by the Chairman at the meeting of the Section in June, which was favorably voted upon at the time, that is, the advis-

ability of modifying our classification of deaths in the puerperal state to conform to the method used by the Registrar-General for England and Wales. Puerperal deaths there are either "deaths of women classed to pregnancy and childbearing" or "deaths of women not classed to pregnancy and childbearing but returned as associated therewith," the distinction between the two groups being obvious both from the practical and statistical points of view. The Registrar-General's report for 1920 shows 4144 deaths classed to pregnancy and childbirth, a rate of 43.3 per 10,000 live births. The Commonwealth of Massachusetts the same year showed a rate of 76 maternal deaths for 10,000 live births. England and Wales, however, yielded 1086 deaths in 1920 associated with pregnancy and childbirth, a rate of 11.3 per 10,000 live births, which under the method used in the registration area of the United States would have brought their maternal mortality to 54.6. In like manner the influenza epidemic in 1918 was the chief factor in increasing the maternal mortality in Massachusetts to 84 from the figure of 64 for the preceding year; in England and Wales, however, the same epidemic, while it increased considerably the deaths associated with pregnancy and childbirth, did not influence to the slightest degree the figures dealing with direct childbirth mortality.

## MISCELLANY

## CONNECTICUT DEPARTMENT OF HEALTH

WEEKLY MORBIDITY REPORT FOR THE WEEK ENDING  
SEPTEMBER 20, 1924

(Including all cases reported before 11 A. M., Monday,  
September 22, 1924)

Diphtheria		Scarlet Fever	
Fairfield County		Fairfield County	
Bridgeport	8	Bridgeport	6
Fairfield	1	Danbury (C)	2
Stratford	1	Greenwich	2
Hartford County		Shelton	1
Bristol	1	Stamford (C)	1
Hartford	1	Hartford County	1
New Britain	3	Berlin	1
Litchfield County		Hartford	3
Harwinton	2	Manchester	1
New Haven County		New Britain	3
Meriden (C)	1	Litchfield County	1
New Haven	2	Plymouth	1
Waterbury	3	Thomaston	1
New London County		New Haven County	1
New London	1	Madison	1
		New Haven	3
State total	24	Orange	1
Last week	25	Waterbury	1
		New London County	1
		Norwich (C)	1
The following diphtheria bacilli carriers were reported:		State total	29
Lebanon	6	Last week	24
New Britain	1	Typhoid Fever	
New Haven	2	Fairfield County	1
New London	1	Danbury (C)	1

Greenwich	1	Hartford County	
Hartford County		Hartford	4
Hartford	1	Southington	3
Manchester	1	West Hartford	1
Middlesex County		Middlesex County	
Essex	1	East Haddam	1
New Haven County		New Haven County	
Branford	1	Cheshire	1
New Haven	1	Hamden	2
West Haven	1	New Haven	9
New London County		Waterbury	1
Waterford	1	New London County	
Windham County		Lebanon	2
Eastford	3	New London	1
		Stonington	14
State total	12	Tolland County	
Last week	8	Willington	1
Measles			
Fairfield County		State total	62
Bridgeport	1	Last week	29
Norwalk	1	Other Communicable Diseases	
Hartford County			
Enfield	1	Cerebrospinal men.	2
New Haven County		Chickenpox	3
New Haven	4	Encephalitis epid.	1
		German measles	1
State total	7	Influenza	2
Last week	4	Malaria	1
Whooping Cough			
		Mumps	2
Fairfield County		Pneumonia (lobar)	16
Bridgeport	1	Poliomyelitis	6
Fairfield	1	Tetanus	1
Greenwich	9	Tuberculosis (pul.)	26
Norwalk	5	" (other forms)	2
Stamford (C)	1	Gonorrhea	21
Stratford	5	Syphilis	15

## MAINE DEPARTMENT OF HEALTH

REPORT OF INFECTIOUS DISEASES REPORTED FOR THE  
WEEK ENDING SEPTEMBER 20, 1924

<i>Cerebrospinal Meningitis</i>		Madison	1
Bath	1	Mars Hill	2
		Portland	1
		Rockland	2
		Sanford	6
<i>Chickenpox</i>			
Boothbay Harbor	1		
Lewiston	5		
	6	<i>Measles</i>	28
		Cushing	1
		Presque Isle	1
<i>Diphtheria</i>		South Berwick	1
Camden	2		
Portland	2		
Rumford	1		3
Webster Pl.	2		
Westbrook	1	<i>Mumps</i>	
	8	East Millinocket	1
		New Gloucester	1
		Portland	6
		South Portland	1
<i>German Measles</i>			
Auburn	1		
Camden	3		9
Waterville	1		
	5	<i>Pneumonia</i>	
		Bangor	1
		East Millinocket	1
		Greene	1
<i>Gonorrhea</i>		Portland	1
Augusta	1	Richmond	1
Bangor	1		
Belfast	3		
Biddeford	1		
Danforth	1	<i>Poliomyelitis</i>	
Fort Fairfield	3	Addison	1
Greenville	5	Camden	1
Harrington	1		

Island Falls	1	<b>Typhoid Fever</b>	
Old Town	1	Ashland	3
Portland	1	Baileysville	1
Rockport	1	Bangor	1
Waldoboro	2	Bath	1
Waterford	1	Bliddeford	1
	10	Houlton	2
<b>Scarlet Fever</b>		Island Falls	3
Bristol	3	Perham	1
Lewiston	3	Portland	2
Perham	1	South Berwick	1
South Thomaston	1	South Brewer	1
South Portland	2		17
	10	<b>Vincent's Angina</b>	
<b>Septic Sore Throat</b>		East Millinocket	1
East Millinocket	1	Portland	1
<b>Syphilis</b>			2
Portland	3	<b>Whooping Cough</b>	
<b>Tetanus</b>		Eustis	2
Fairfield	1	Flagstaff Pl.	1
<b>Tuberculosis</b>		Rockport	1
Portland	1	Sanford	1
Prospect Harbor	1	Webster Pl.	7
	2		12

### INFANTILE PARALYSIS SERUM

A CONSIDERABLE reduction in the mortality and permanent paralysis of anterior poliomyelitis follows the therapeutic use of Rosenow's serum, according to Fred B. Clarke, M. D., in *California and Western Medicine*, XXII, (Sept.) 1924:437. This serum has been developed by the immunization of animals with a pleomorphic streptococcus isolated from poliomyelitis lesions. The dosage used is roughly 5 to 10 c.c. for each 5 to 10 years of age, and it should be repeated in twelve, eighteen or twenty-four hours, if there is no fall in temperature after the first injection. The serum is given intramuscularly.

In 259 cases reported by Rosenow the mortality rate was 7.3 per cent as compared with the usual 27 per cent and Clarke reports equally favorable results.

We are not prepared to make any statements as to the value of this serum; apparently it has not been used to any extent in this part of the country.

### THE LIFE EXTENSION INSTITUTE

EUGENE LYMAN FISK, M. D., Medical Director of the Institute, has issued a circular letter to the examiners of this Institute, correcting some misleading statements which have been made. The following extracts concern the important points made:

(1) The statement has been made that this institution signs up physicians by written contracts to make examinations at a fixed price.

This is not true. Examiners are informed of the fees paid for examinations and they are at liberty at any time to relinquish this work. They are not bound by any contract.

(2) The criticism has been made that this institution buys the service of a physician and sells it for a much higher sum.

This is a distinctly misleading statement. The Institute employs the examiner to make a physical examination and report his findings. The full service rendered to the individual by the Institute includes not only a report of the physical findings, but a urine analysis, a consideration of the personal history form, a report on all these findings and a message of counsel, not in any sense comparable to the clinical counsel given a patient by a physician, but limited to guidance in personal hygiene and emphatic instruction and suggestion as to the type of medical treatment to seek. Examiners will appreciate that this service rendered by the Institute is a preliminary one and involves recommendation to the individual served to seek medical treatment of his own physician, if such treatment be indicated. The Institute does not give treatment.

(3) The statement has been made that this institution sells the results of the periodic examinations which it procures at a certain price from its examiners to insurance companies for a higher price.

This is absolutely untrue. The relationship between the Institute and the insurance policyholder is **STRICTLY CONFIDENTIAL**. No report of any kind is made to the insurance companies and the information derived from these examinations could not under any circumstances be procured by organizations, employers, insurance companies, or any one else, except with the written consent of the examinee. The examiners of the Institute may feel absolutely sure that their work is not being resold.

(4) The statement has been made that the Institute makes all urinary analyses of the individuals examined throughout the country at its Head Office laboratory, thus reflecting upon the ability of the local examiner to do this work and also binding those examined to the Institute by holding the records of these examinations at the Head Office where alone the information can be had as to the results of these analyses. This is a gross mis-statement of the purpose of the Institute and of the facts as to its methods. The urinary analyses are made at the Head Office for the sound, scientific reason that the work can there be standardized for interpretation. It is not a question of the competence of 9,000 local examiners to do this work, but a question of standardizing it on a uniform basis. This can be done in a small group of men working under supervision, but cannot be done among thousands of examiners where the personal equation would necessarily enter into the performance of the test and the interpretation of the findings. The report of the urinary analysis is forwarded to the individual examined with instruction to lay it before his family physician, or if there is no need to do this because of absence of abnor-

malities, the report is held by the individual and is available for future reference by him or his physician. The records of the Institute show that more than fifty per cent of those examined are urged to seek medical treatment.

(5) Those who most seriously misinterpret the plan of operation of the Institute have the mistaken notion that its service is intended in some way to displace that of the family physician. The influence of the Institute's service is exactly opposite. In view of the limitations that it places on itself the Institute is able to appeal to the public directly through publicity and advertising in a way that would be impossible for the individual physician. Inasmuch as the Institute gives no treatment, it is free to urge the importance of treatment, and its counsel in a matter of this kind is regarded as unbiased and disinterested. The counsel of the Institute is, as already stated, preliminary and suggestive, and it rests with the family physician, specialist or clinician who is consulted by those examined, to make the final diagnosis and determine the exact nature of the treatment. The charge of commercialism, often made with regard to the Institute because of the commercial nature of wholly different institutions alleging to follow the same plan, is easily dismissed when the facts are known.

(6) The charge of commercialism is sometimes made against the Institute because of its form of organization, i. e., a stock corporation.

Although this institution was established as a stock corporation with dividends on the preferred stock limited to five per cent, two-thirds of the common stock was trusted with Hon. William H. Taft (former Chairman of the Board of Directors) and Professor Irving Fisher, for public health work of a philanthropic nature, and the Institute actually conducted its work at a heavy financial loss for a period of five years. The deficit for the first two years was \$116,760.34, for the next two years \$70,153.95; in 1918 the deficit was \$3,332.62. For the next five years the net profits averaged about \$17,000 annually, but no cash dividends were paid until 1923 when three and a quarter per cent cash dividends were paid. A very moderate surplus was established and although no dividends were declared on the common stock, substantial contributions were made to philanthropic health work, notably to the reclamation of rejected registrants during the war, and recently to the National Health Council. In other words, during a period of ten years when close to \$10,000,000 worth of medical treatment was recommended by the Institute and referred to the profession at large, and approximately \$1,000,000 was paid to examiners for fees, not to mention substantial contributions made to public health work, the stockholders and financial backers of the Institute received only \$10,601.60 cash dividends. The dividends in arrears on the preferred stock were cleared up

in 1922 by payment of stock dividends, which was largely a nominal payment inasmuch as the stock had no market value.

#### DOES DISEASE PREVENTION PAY?

THAT disease prevention more than pays for itself is exemplified in a recent statement from a Connecticut town of a population of about 5,000. In 1902 this town had an epidemic of smallpox, due largely to the fact that its people were not protected by vaccination. This smallpox epidemic cost the town \$4300. In more recent years the people in the town have learned the lesson of wisdom. They have been taught the safety of vaccination as a protection against smallpox. They have swung into line with other progressive towns to protect themselves against disease.

In 1923, 398 were vaccinated, mostly children. This cost the town \$74.50—only 18.7 cents for each child so protected. This year before school opened over 100 applied voluntarily for vaccination. This proves that progress is being made along the lines of disease prevention and that one town at least appreciates the fact that it costs far less to protect its citizens than to cure them after disease overtakes them.—*Bulletin, Connecticut Department of Health.*

#### WARNINGS

HONEST doctors do not advertise. If you go to one who advertises, it may cost you your life. Do not waste money and risk your health by taking up some foolish "healing-cult."

An honest doctor will not promise a "perfect cure." If a doctor pays a "bonus" for new patients brought to him you may know that he cares more for money than for helping the sick. A good doctor will not claim to have a "cure," discovered or manufactured by himself, and known only to himself and a "chosen few." If a true discovery is made, an honest doctor gives it to the world. It will be known to good doctors, and will be approved by community health organizations.

Do not go to a druggist for advice. He is not a physician and has no legal right to attempt to tell you what your trouble is or to prescribe for you. No honest druggist will give medical advice. He knows it may be harmful and that it is against the law.

Medicines are dangerous. You should never try to treat yourself. A medicine may help one person and be harmful to another. It may be useful in one illness and worthless in a second sickness even though the second seems the same as the first. Some medicines are safe if given in a few doses but are harmful if taken too long.

"Headache powders," pills and "sleeping potions" are particularly dangerous. Some of them may cause "heart failure"; others may lead to "drug habits."



Avoid the "medicine" which removes pain. It may hide the pain but pain is only a "warning." The cause of the pain is not removed and to ignore it or hide it may cost you your life. "Pain removers" may start dangerous drug habits.—*New York Tuberculosis Association, Inc.*

#### RECENT DEATH

DR. JOSEPH MORRILL PUTNAM, a retired member of the Massachusetts Medical Society, died at the home of his daughter-in-law, Mrs. Ralph Putnam, in Winchester, September 19, 1924, at the age of 76.

Dr. Putnam was a native of Groton. He was educated at Lawrence Academy, and entering Harvard did not complete the academic course, but went to New York, where he took his medical degree at Bellevue Hospital Medical College, in 1870. Upon receiving his degree he came back here and took up his residence in Chelsea, where he was city physician and visiting physician to the Soldiers Home. Before moving to Winchester he lived for eight years in West Medford. He was retired in 1917.

Dr. Putnam is survived by his wife, who was Harriet Kimball of Lubec, Me., and one daughter, Miss Beatrice Putnam of Winchester, and two grandchildren.

His son, Ralph Putnam, a prominent physician of Winchester, died Oct. 17, 1923, at the age of 47.

#### REMOVALS

DR. RANDALL CLIFFORD has removed his office from 11 Marlborough St. to 475 Commonwealth Ave., Boston.

DR. ALBERTA S. B. GUIBARD now has her residence and office at 125 Commonwealth Ave., Boston.

DR. RICHARD M. SMITH has moved from 355 Marlboro St. to 66 Commonwealth Ave., Boston.

DR. J. HERBERT YOUNG has moved his office from 520 to 66 Commonwealth Ave., Boston.

DR. RICHARD G. EUSTIS has moved his office from 355 Marlboro St. to 66 Commonwealth Ave., Boston.

DR. MINOT F. DAVIS has changed his office from 15 Charles St. to 419 Boylston St., Boston.

#### NOTICES

##### ESSEX SOUTH DISTRICT MEDICAL SOCIETY

THERE will be a joint meeting of the Essex North and South and Middlesex North and East

on Wednesday, October 8th, at Danvers State Hospital. 1 to 2, inspection of hospital. General meeting begins at 2 P. M.

RALPH E. STONE, *Secty.*, Essex South.

##### NEW ENGLAND DERMATOLOGICAL SOCIETY

THE regular quarterly meeting of the New England Dermatological Society will be held Wednesday, October 8th, in the Skin Out-patient Department, Massachusetts General Hospital, at 3 P. M.

C. M. CASSELBERRY, *Sec'y.*

##### ESSEX NORTH DISTRICT MEDICAL SOCIETY

THE quarterly meeting of the society will be held at Danvers State Hospital, Danvers (Telephone Danvers 37), upon invitation of John B. Macdonald, M. D., Superintendent, on Wednesday, Oct. 8, 1924, and will be a joint meeting with these district societies, Middlesex North, Middlesex East, and Essex South, with the following programme:

1 to 2 P. M. Inspection of plant under guides starting from main office.

2 P. M. sharp. General meeting opens with the following speakers:

- (a) Enoch H. Bigelow, M. D., of Framingham, President of the Mass. Medical Society, upon "The Parent Society" (15 minutes).
- (b) Chas. F. Painter, M. D., of Boston, chairman of the standing Committee on Medical Education and Medical Diplomas, upon "Desirable Improvements in Medical Education" (10 minutes).
- (c) Thos. J. O'Brien, M. D., of Boston, Secretary of the standing Committee on State and National Legislation, upon "Medical Legislation" (15 minutes).
- (d) Chas. F. Clay, M. D., senior physician at Danvers State Hospital, upon "Dementia Praecox" (20 minutes), followed by showing of cases.
- (e) Guy C. Randall, M. D., senior physician at Danvers State Hospital, upon "Manic Depression" (20 minutes), followed by showing of cases.
- (f) J. B. Macdonald, Supt., upon "The Relation of the Physician to the Danvers State Hospital" (15 minutes).

All the above topics are open to discussion (3 minutes to a discussion).

5 P. M. Lunch.

The next meeting of the Censors will be held at Hotel Bartlett, Haverhill (Telephone 8710), Thursday, Nov. 6, 1924, at 2 P. M. sharp.

CHAS. S. BENSON, M. D., *President*,  
J. FORREST BURNHAM, M. D., *Secretary*,  
567 Haverhill St., Lawrence, Mass.  
Sept. 30, 1924.

# MONTHLY MEETING OF THE WORCES- TER DISTRICT MEDICAL SOCIETY

RUTLAND STATE SANITARIUM, OCTOBER 8, 1924

3.30 P. M. Hospital open for inspection by any of the members who would like to visit the institution.

5 P. M. Business meeting.

5.30 P. M. Refreshments will be served.

6.30 P. M. Program:

Dr. H. D. Chadwick, Westfield State Sanatorium. Hilum Tuberculosis, with demonstration of X-Ray films.

Dr. Cleveland Floyd, Boston, Mass. Hilum Tuberculosis, with demonstration of X-Ray films.

Dr. E. B. Emerson, Rutland State Sanatorium. The Sanitarium Idea.

Drs. Jores and Stone, Rutland State Sanatorium. The Early Diagnosis of Pulmonary Tuberculosis.

# THE FIFTH INTERNATIONAL CON- GRESS OF THE HISTORY OF MED- ICINE

THIS Congress will be held at Geneva, July 22-27, 1925, under the auspices of the Geneva Medical Society.

President of Honor: Sir D'arcy Power, London.

Vice-Presidents of Honor: Dr. A. Caparoni, Rome; Dr. D. Giordano, Venice; Dr. E. B. Krumbhaar, Philadelphia; Dr. Laignel-Lavastine, Paris; Dr. J. G. de Lint, Holland; Dr. A. Patry, Geneva; Dr. Charles Singer, London; Dr. Tricot-Royer, Antwerp.

President: Dr. Charles Greene Cumston.  
Vice-Presidents: Dr. Ernest Wichersheimer, Prof. Andrea Corsini.

General Secretaries: Dr. A. de Peyer, Dr. Emile Thomas.

Treasurer: Dr. Jules Pollard.

A preliminary program of the Congress will be issued on Dec. 1, 1924, and may be obtained at the office of the General Secretary, 20 Rue Général Dupour, Geneva, Switzerland.

# UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

## PHYSIOTHERAPY ASSISTANT

An examination for physiotherapy assistant will be held throughout the country on November 5. It is to fill vacancies in the Field Service of the United States Veterans Bureau and United States Public Health Service at entrance salaries ranging from \$1320 to \$1680 a year.

A separate register of eligibles will be established in each of the following branches: Hydrotherapy, massage, remedial gymnastics, and general physiotherapy.

The duties of the position consist of administering to special cases the treatments of physiotherapy, as massage, electrotherapy, hydrotherapy, thermotherapy, and mechanotherapy; active, passive, assistive,

and resistive exercises and remedial gymnastics; keeping a daily report of the work in progress on each patient under the appointee's direction and treatment; and making the required reports of the activities of the reconstruction work in physiotherapy.

Men only are appointed to these positions in the Veterans Bureau and Public Health Service.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of United States Civil Service Examiners at the postoffice or custom house in any city.

## SOCIETY MEETINGS

### Bristol South Medical Society

Next meeting will be held Thursday, November 16, 1924.

### Essex North District Medical Society

October 8, 1924. Quarterly meeting at Danvers State Hospital, combined with the Middlesex North, Middlesex East and Essex South District Societies. Clinical program arranged by Dr. J. B. Macdonald, Superintendent of the Danvers State Hospital. Officers of the Massachusetts Medical Society will speak on matters concerning the welfare of the Society.  
January 7, 1925. Semi-annual meeting at Haverhill.  
May 6, 1925. Annual meeting at Lawrence.

### Hampden District Medical Society

Meetings to be held on the third Tuesday of January and the third Tuesday in April.  
Dr. William J. Mayo is expected to attend the combined meeting of the four western Districts to be held in Springfield in October.

### Hampshire District Medical Society

The meetings will be held the second Wednesday of November, January, March and May.  
Dr. Channing Simmons will deliver an address at the November meeting. Title: "The Treatment of Cancer, with Especial Reference to Radiation."

### Middlesex East District Medical Society

Wednesday, October 8. Danvers State Hospital. Joint meeting.  
Wednesday, November 19. Harvard Club. Dr. George K. Pratt, "Community Aspects of Psychiatry."  
Wednesday, January 21. Harvard Club. Dr. Franklin K. White, "Diagnosis of Gall-Bladder Disease."  
Wednesday, March 13. Harvard Club.  
Wednesday, April 15. Harvard Club.  
Wednesday, May 13. Colonial Inn, North Reading.

### Middlesex North District Medical Society

October 8, 1924. Joint meeting at Hathorne.  
January 23, 1925.  
April 29, 1925.

### Norfolk District Medical Society

October 23, 1924. Boston Tuberculosis Hospital, Mattapan. Subject: Tuberculosis. Speakers: The Superintendent and Drs. Kelley and Remick.  
November 25, 1924. Masonic Temple, Roxbury. Subject: Diabetes—with especial reference to insulin. Speakers: Dr. Joslin and probably one other.  
January 27, 1925. Masonic Temple. Subject: "Some Trends of Medical Teaching and Medical Practice." Speakers: Drs. A. S. Begg and W. P. Bowers.  
February 24, 1925. Masonic Temple. Subject: "The Need of Periodical Physical Examinations and How to Make Them." Speaker: Dr. Francis H. McCrudden. A second speaker will be selected to present another subject at this meeting.  
March 31, 1925. Tufts College Medical School. This meeting given over to Drs. Leary and Watters for the purpose of giving us a medical examiners' talk.

### Norfolk South District Medical Society

Meetings will be held the first Thursday of each month from October to May, inclusive, at 12 noon, at the Norfolk County Hospital, South Braintree.  
Dr. T. O'Donnell, District Health Officer, will read a paper at the meeting to be held October 2.

### Worcester District Medical Society

November 12, 1924. Grafton State Hospital. Dr. Charles Macfie Campbell of the Psychopathic Hospital, Boston, will speak on "Nervous Disorders in Children."  
December 10, 1924. Worcester State Hospital. Subject and speaker to be announced.  
January 7, 1925. Surgical meeting. Place, subject and speaker to be announced.  
February 11, 1925. Memorial Hospital, Worcester. Papers will be read by the members of the hospital staff.  
March 11, 1925. St. Vincent's Hospital, Worcester. Papers will be read by the members of the hospital staff.  
April 9, 1925. Subject and speaker to be announced.  
May 14, 1925. Annual meeting.